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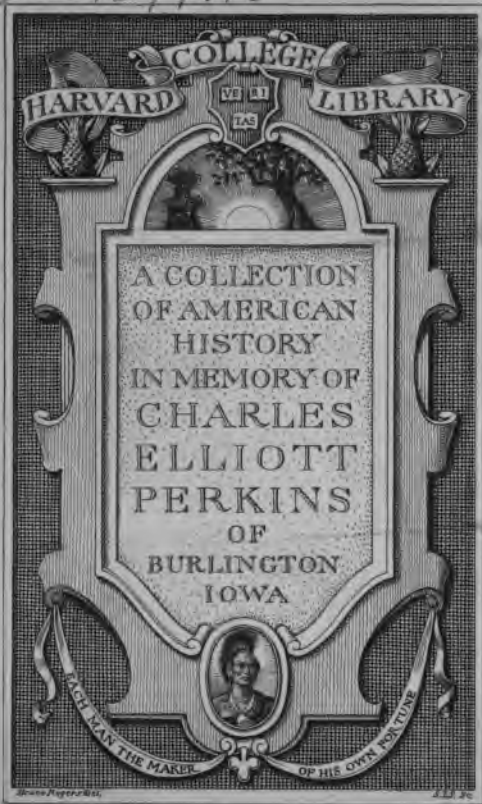
# NINE NUGGETS



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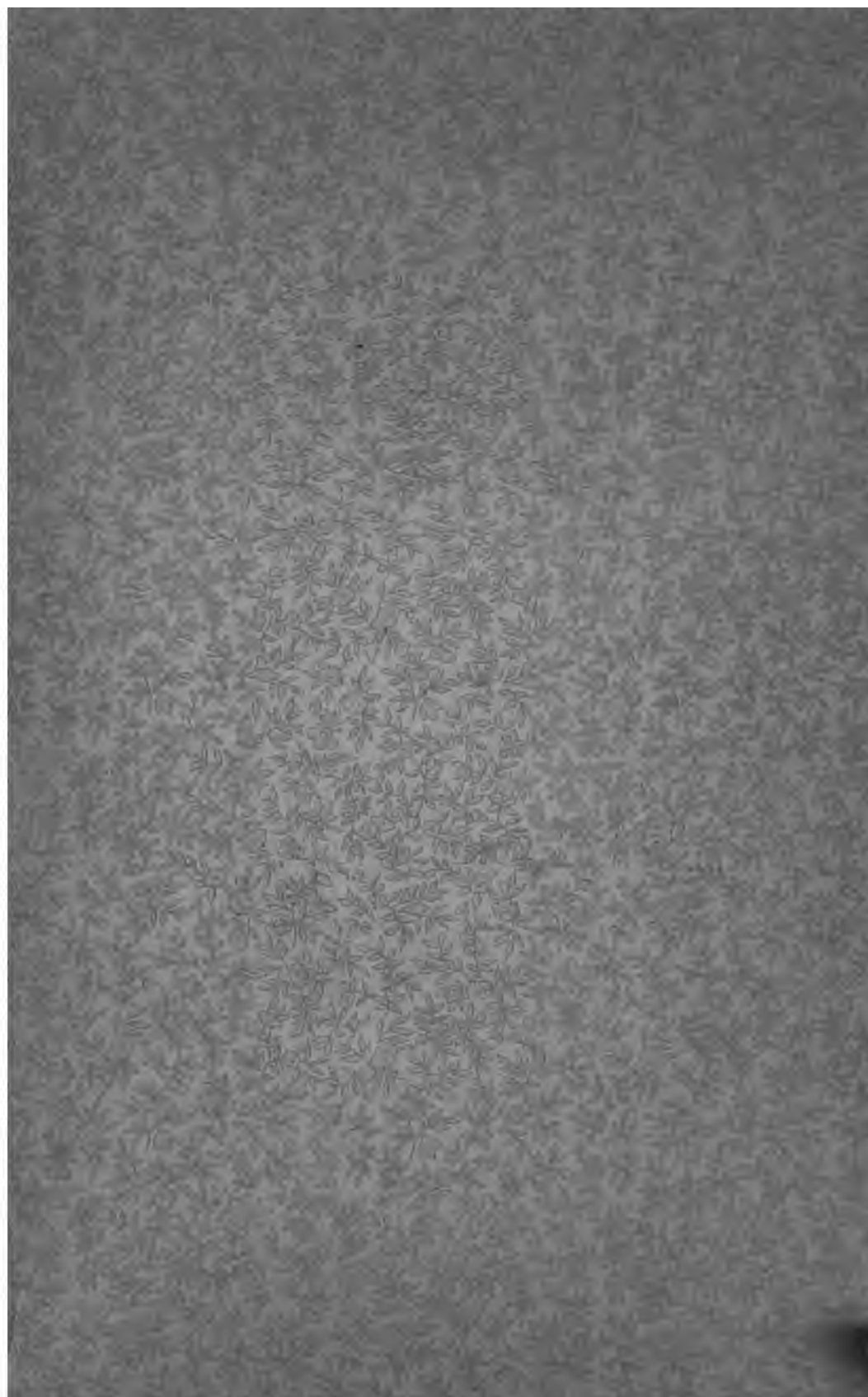
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STEAMER BOUND FOR CAPE NOME, WORKING ITS WAY SLOWLY THROUGH THE ICE.

*Dr. J. A. Robinson*

# NOME NUGGETS.

SOME OF THE EXPERIENCES OF A PARTY OF  
GOLD SEEKERS IN NORTHWESTERN  
ALASKA IN 1900.

BY L. H. FRENCH, M.D.

Late Senior Major 3rd U. S. V. Cavalry.

IN CHARGE OF THE EXPEDITION OF THE CAPE NOME HYDRAULIC  
MINING COMPANY.

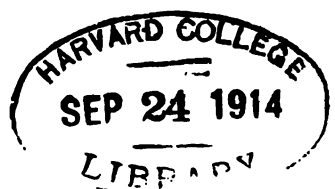
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MONTROSS, CLARKE & EMMONS, PUBLISHERS,  
51 Nassau Street, New York.

1901.



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C. E. PERKINS MEMORIAL

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Gold, gold, gold, gold,  
Bright and yellow, hard and cold ;  
Molten, graven, hammered, rolled,  
Heavy to get, and light to hold ;  
Stolen, borrowed, squandered, doled.

—*Thomas Hood.*

TO THE  
STOCKHOLDERS  
OF THE  
CAPE NOME HYDRAULIC MINING COMPANY,  
OF NEW YORK AND ALASKA,  
THE PROTECTION OF WHOSE INTERESTS ON THE SUMNER  
PENINSULA GAVE RISE TO THE EXPERIENCES  
OF THE WRITER, THESE NOTES ARE  
RESPECTFULLY DEDICATED.

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## ANENT THE AUTHOR.

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“ Oh, that mine enemy would write a book,” and he did.

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Not only I, but a round dozen adventurous gold seekers (by proxy) entrusted our earthly hopes, so far as Alaska is concerned, to “The Major”. He, with an “outfit”, invaded the most recently discovered *Ultima Thule*, meeting with many stirring adventures and unusual experiences en route to and from and while at the Eldorado of the frozen North. He did, on many occasions, deliberately and systematically “do things” in the interest of the adventurous Syndicate, whose only participation in his labors, hardships and privations was the supplying of a portion of the coin of the realm; the aforesaid coin being necessary to determine if the sands of the extreme north-western corner of our continent, washed by the icy billows of Behring Sea, really contained gold enough to warrant mining operations on an extensive scale.

Major L. H. French knows of what he writes and writes of what he knows in a manner so modest as to omit many of the most interesting incidents of his voyage, in order to avoid the too frequent use of the personal pronoun.

Major French spent much of his early life on a ranch, and there became an ardent lover of athletic sports, a good horseman, sure shot and expert camper; later, he travelled extensively in Europe, and made several trips into the interior of North Africa in pursuit of big game. After a few years' practice of medicine in the national Capitol, he was given a major's commission and assigned to the 3d U. S. V. Cavalry. At the close of the Spanish-American war, he engaged in mining.

To a man who knows the freedom of mountain, forest and plain, who appreciates the absolute independence which can only be had with a good horse between his legs, a cavalry sabre dangling under his bridle-hand, and the butt of a six-shooter invitingly caressing his right forearm as it rises and falls to the easy lope of a cross-country spin, the practice of medicine is an impossibility. Thus it was that Leigh

H. French, M. D., ceased collaborating with the undertaker and coroner, and Major French, U. S. A., became first a cavalry officer, next an argonaut, and, at the request of his associates, an author. This, being an opportunity not to be overlooked, is the cause of my personal attack on him at this crucial moment.

J. CHARLES DAVIS,  
"The Birches,"

November 10th, 1900.

Richmond Hill, N. Y.

## GOLD.

[From "Getting Gold," by J. C. F. Johnson, F. G. S.]

**G**OLD is a name to charm by. It is desired by all nations, and is the one metal the supply of which never exceeds the demand. It has been said, "Gold is the most potent substance on the surface of our planet".

It has been repeatedly asserted that the deposits in the sands of the beaches of Behring Sea, in the vicinity of Cape Nome, are unique; when, in reality, mining operations similar to those carried on at Nome last summer, have been carried on since the world began. It is astonishing how little the average man of business knows of gold.

That this much appreciated metal is heavy to get is proved by the high value which has been placed on it from times remote to date, and that it is light to hold most of us know to our cost.

We read no farther than the second chapter in the Bible when we find mention of gold. There Moses speaks of "the land of Havilah, where there is gold;" and in Genesis, Chapter XXIV, we read that Abraham's servants gave Rebekah an earring of half a shekel weight, say 4 dwt. 13 grs., and two "bracelets of ten shekels weight", or about 4½ ozs. Throughout the Scriptures, and, indeed, in all historic writings, we find frequent mention of the king of metals, and always it is spoken of as a commodity highly prized.

Either we are mistaken in the weights used by the Hebrew nation in early days, or the arithmetic of those times was not quite "according to Cocker". We read, I. Kings X and XLI, that Solomon in one year received no less than six hundred and three score and six talents of gold. If a talent of gold was, as has been assumed, 3,000 shekels of 219 grains, the value of the golden treasure accumulated in this one year by the Hebrew king would have been £3,646,350 sterling. Considering that the only means of "getting gold" in those days was a most primitive mode of washing it from river sands, or a still more difficult and laborious process of breaking the quartz from the lode without proper tools or explosives, and then slowly grinding it by hand labor between two stones, the amount mentioned is truly enormous.



Of this treasure the Queen of Sheba, who came to visit the Hebrew monarch, contributed a hundred and twenty talents, or, say, \$3,000,000 worth. Where the land of Ophir, whence this golden lady came, was really situated has evoked much controversy, but there is now a general opinion that Ophir was on the east coast of Africa, somewhere near Delagoa Bay, in the neighborhood of the Limpopo and Sabia Rivers. It should be mentioned that the name of the "black but comely" queen was Sabia, which may or may not be a coincidence, but it is certainly true that the rivers of this district have produced gold from prehistoric times till now.

The discovery of remarkable ruins in Mashonaland, which evince a high state of civilization in the builders, may throw some light on this interesting subject.

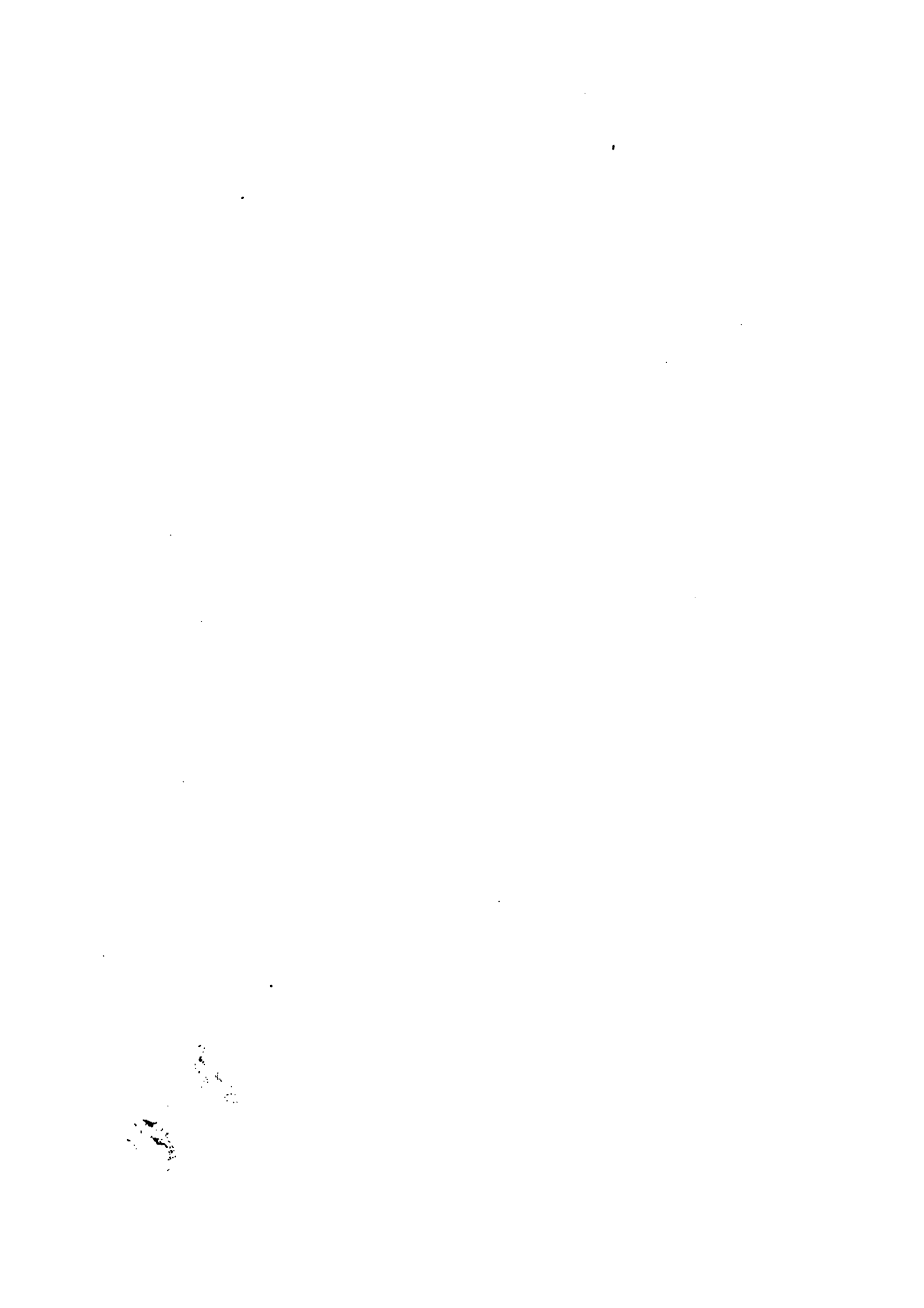
The principle value of gold is as a medium of exchange, and its high appreciation is due, first, to the fact that it is in almost universal request; and, secondly, to its comparative scarcity; yet, oddly enough, with the exception of that humble but serviceable metal, iron, gold is the most widely distributed metal known. Few, if any, countries, do not possess it, and in most parts of the world, civilized and uncivilized, it is mined for and brought to market. The torrid, temperate and frigid zones are almost equally auriferous. Siberia, mid-Asia, most parts of Europe, down to equatorial and Southern Africa in the Old World, and North, Central and Southern America, with Australasia, in what may be termed the New World, are all producers of gold in payable quantities.

In the earlier ages, the principle source of the precious metal was probably Africa, which has always been prolific in gold. To this day there are to be seen, in the southern provinces of Egypt, excavations and the remains of old mine buildings and appliances left by the ancient gold-miners, who were mostly state prisoners. Some of these mines were worked by the Pharaohs of, and before, the time of Moses; and in these dreadful places thousands of Israelites were driven to death by the taskmaster's whip.

The first mode of obtaining this much desired metal was, doubtless, by washing the sand of rivers which flowed through auriferous strata. Some of these, such as the Lydian Stream, Pactolus, were supposed to renew their golden stores miraculously each year. What really happened was that the winter floods detached portions of auriferous drift from the banks, which, being disintegrated by the rush and flow of the water, would naturally deposit in the



NUGGETS FROM NO. 5, ANVIL CREEK. LARGEST IS ONE AND ONE-HALF POUNDS  
(L. H. FRENCH AND E. H. BROWN.)



still reaches and eddies any gold that might be contained therein.

The mode of washing was exactly that carried on by the natives in some districts of Africa to-day. A wooden bowl was partly filled with auriferous sand and mud, and, standing knee-deep in the stream, the operator added a little water, and caused the contents of the bowl to take a circular motion, somewhat as the modern digger does with his tin dish, with this difference, that his ancient prototype allowed the water and lighter particles to escape over the rim as he swirled the stuff round and round. I presume, in finishing the operation, he collected the golden grains by gently lapping the water over the reduced material, much as we do now.

Gold differs in its mode of occurrence from other metals in many respects; but there is no doubt that it was once held in aqueous solution and deposited in its metallic form by electro-chemical action. It is true we do not find oxides, carbonates, or bromides of gold in nature, nor can we feel quite sure that gold now exists naturally as a sulphide, chloride, or silicate, though the presumption is strongly that it does. If so, the deposition of gold may be ceaselessly progressing.

It is well known that much disappointment and loss accrue through lack of knowledge by prospectors, who, with all their enterprise and energy, are often very ignorant, not only of the probable locality, mode of occurrence, and widely differing appearance of the various minerals, but also of the best means of locating and testing the ores when found.

All of us who have had much to do with mining know that the majority of the best mineral finds have been made by the purest accident; often by men who had no mining knowledge whatever; and that many valuable discoveries have been delayed, or when made, abandoned as not payable, from the same cause—ignorance of the rudiments of mineralogy and mining.

What the prospector requires to know is, first, the usual locality of occurrence of the more valuable minerals; secondly, their appearance; thirdly, a simple mode of testing. With respect to occurrence, the older sandy and clay slates, chorite slates, micaceous, and hornblende schists, particularly at or near their junction with the intrusive granite and diorite, generally form the most likely geological country for the finding of mineral lodes, particularly gold, silver and tin. But those who have been engaged in practical mining for long, finding by experience that no two mineral fields are exactly alike in all their characteristics, have come to the conclusion that it is unwise to form

theories as to why metals should or should not be found in certain enclosing rocks or matrices.

Old river beds, formed of gravelly drifts in the same neighborhood, may probably contain alluvial gold ; or shallow deposits of " wash " on hillsides and in valleys, will often carry good surface gold. This is sometimes due to the denudation, or wearing away, of the hills containing quartz veins, which, popular opinion to the contrary, is not always the case.

Much disappointment and loss of time and money may sometimes be prevented if prospectors will realize that *all* alluvial gold does not come from the quartz veins or reefs ; and that following up an alluvial lead, no matter how rich, will not inevitably develop a payable gold lode. Sometimes gold, evidently of reef origin, is found in the alluvial ; but in that case it is generally fine as regards the size of the particles, more or less sharp-edged, or crystalline in form if recently shed ; while such gold is often of poorer quality than the true alluvial which occurs in mammillary nuggets, it is of a far higher degree of purity as gold.

The ordinary non-scientist digger will do well to give credence to this view of the case, and will often thereby save himself much useless trouble. Sometimes also the alluvial gold, coarser in size than true reef-born alluvial, is derived almost *in situ* from small quartz " leaders ", or veins, which the grinding down of the surface of the slates has exposed ; these leaders also in time being broken and worn, set free the gold they have contained ; this does not, as a rule, travel far ; but sometimes becomes water-worn by the rubbing over it of the disintegrated fragments of the rock.

But the heavy, true alluvial gold, in great pure masses, mammillary or botryoidal (like a bunch of grapes) in shape, have assuredly been formed by accretion of some metallic base—from gold salts in solution, probably choride, but possibly sulphide.

Prospecting for alluvial gold at shallow depths is a comparatively easy process, requiring no great amount of technical knowledge. Usually the first gold is got at or near the surface, and then traced to deep leads, if such exist.



INTERIOR OF ONE OF THE SLEEPING TENTS OF ONE OF THE CAMPS OF THE CAPE NOME HYDRAULIC MINING CO.





## PREFACE.

This book has been written and published principally for distribution among those who are interested, with me, in the Cape Nome district, in the Cape Nome Hydraulic Mining Company, and among my friends. If it contains any information valuable to those who intend to visit these new and wonderful placers, I shall be very glad. There is no country which offers such splendid opportunities to an energetic young man as Alaska; though the reader should remember that there are many hardships to endure, should he undertake such a journey, and that the making of a fortune is by no means assured.

Gold was first discovered at Nome in July, 1898. The discovery was made by men who had been up the coast, who were returning, and whose schooner was capsized in a storm off the mouth of Snake River. After doing a little prospecting they hastened to Golovin Bay where they induced others to return with them to Cape Nome. A considerable number of men did so and made valuable discoveries on the



creeks, the presence of gold in the beach not being then known. By this time, as winter was setting in, they went back to Golovin Bay. Of course, after they arrived there, the news being too good to keep, every one heard of their luck. In a few hours there was a general stampede from Golovin Bay to the new diggings. Word was sent to Council City, and on the 18th of November the exodus from that place began. Shortly afterwards the news reached St. Michael, where men from Nome had gold dust to back up their statements, and spent it freely, in stores and with trading companies, for mining tools and provisions to take back with them.

This caused a great deal of excitement among the employes of the stores at St. Michael. In five days many had secured dog teams and provisions, and were on their way over the ice to the new land of gold.

In three weeks the place was nearly deserted, the same being the case with other small camps nearby. The news spread to the villages along the Yukon. Soon scores of dog teams, laden with provisions, passed through St. Michael, en route for this icy Eldorado.

Most of the men had powers of attorney to stake claims for their friends—some even had powers of attorney for their wives and children in the States. In this way claims in the Nome district were taken up. In a short time, when navigation opened, newcomers could find little ground that was not staked. During the summer of 1899 about five thousand people gathered near Cape Nome, and whatever ground remained unclaimed was then taken up. Gold was found in abundance. The transportation companies were largely instrumental in advertising the supposed richness of the beach. During the summer of 1900 gold remained in the beach at Cape Nome in small quantities, but the best of it had been taken out in 1899.

The great richness of the country, which can hardly be overestimated, lies not in the beach, but in the interior. So far only placer claims have been worked, although many valuable quartz claims have been located, and next season will see many of them in operation.

The climate of Nome is, for the most part, anything but agreeable. The weather during last July was ideal, the mean temperature being 52° F., though the nights were very cold. In August continuous rain set in, accompanied by high winds. Only those who are physically strong should venture into this country, as the hardships to be endured are of the severest kind. Those going there should, under no circumstances, take their wives and children.

In June, 1899, gold was discovered in the sands of Nome beach. So many different stories have been told as to the manner in which gold was discovered in the sands on the shores of Behring Sea, that it is difficult to find two men who agree exactly as to the facts of the discovery. The accepted version is that one of the early gold seekers, being stricken with scurvy and unable to work, spent a number of hours each day on the beach, in order to avail himself of the old time whaleman's cure of sand and salt water. In order to occupy his time he took a miner's pan with him and, in a short time, established the fact that gold in large paying quantities could be found in the sands. This, undoubtedly, caused the first real operations in that line by white men; although it is more than probable that the natives had taken gold from the sands long before this, as the early traders found rudely fashioned gold ornaments among them. As no trace of their mining in the interior has ever been discovered, we must draw the aforementioned conclusion.

Quite a number of idle men made rockers and started to work; and even some of the business men sold out and went to rocking. As soon as the miners, working on the creeks for wages, knew that many of these men were making from \$15 to \$100 a day, they threw down their picks and shovels and made for the shore. In an incredibly short time the beach was literally covered with men and rockers, work on the creeks being materially interfered with.

The beach diggings are about two hundred feet in width. They lie between the ocean and the tundra. The tundra is elevated from ten to thirty feet above sea level, stretching back four to six miles to the foothills. It is composed of frozen moss and muck; its surface being dotted with small lakes.

Beach gold is very fine and hard to save; some of it will actually float, with sand, out of a gold pan. It is found on a false bed rock of blue clay. There are from one to three pay streaks of ruby (garnet) sand. The pay streaks vary from one to four inches in thickness, with a bed rock two to six feet deep.

Of the beach, however, I shall have little to say. Its richness was ephemeral, although the vast wealth of the interior exceeds, by far, the most sanguine expectations ever entertained concerning the sands along the shore.

L. H. FRENCH.



# ACTUAL ALASKA.

FROM A GOLD SEEKER'S POINT OF VIEW.



## CHAPTER I.

DEPARTURE FROM NEW YORK.—SCENES AT SEATTLE.—THE VOYAGE  
TO NOME.—RIOTOUS PASSENGERS.—CONDITIONS AT NOME.

**D**URING the winter just passed (1899-1900) the marvellous stories of the richness of the newly discovered Cape Nome district induced me to make preparations for spending the summer there. A number of friends and acquaintances in New York and New England electing to become interested with me in the venture, a considerable plant was ordered in New York and shipped to Seattle. The machinery, which proved to be the largest plant of the sort taken to work on the beach at Cape Nome, was designed to take up sand from the bed of the ocean. The principal features of our plant were : one 10-inch centrifugal pump, one steam shovel and dredge, and one high-duty placer-mining pump, together with the necessary gold saving attachments. Very early in the season we had a plant in course of construction that represented a large outlay of money, and required a skilled staff of mechanics to operate.

The work of organizing the expedition was then begun ; the chief, and first and second engineers were secured, and the services of an assayer contracted for. We fully believed that the sand below low water mark would contain a large and highly remunerative amount of gold.

The several members of the party reached Seattle during the last days of May to find the town full of men preparing to go to Cape Nome. Steamers left almost daily, laden far beyond their capacity both as to passengers and freight. For many weeks vessels had been departing with the full knowledge that Behring Sea would be full of ice floes and that there must be long delays in reaching Nome. But so great was the eagerness to be the first on the field, that a great number of people left in the early spring on sailing vessels and steamers. Tent makers, grocers, hardware dealers, and general outfitters benefitted principally among the merchants of Seattle, though, perhaps, hotel keepers and transportation companies should be mentioned first.

To those who contemplate going to any part of Alaska I wish to state, most emphatically, that there is no better place to purchase an outfit, or machinery, or supplies, or clothing, than Seattle. The merchants of Seattle are not only exceedingly moderate as to charges, but are surprisingly accommodating and prompt. I was the recipient of many kindnesses, and I find that my experience is not different from that of others. I wish especially to acknowledge the receipt of favors from Mr. J. D. Hoge, President of the First National Bank of Seattle (which bank now has a branch at Nome City); from the officials of the Great Northern Railroad, who took excellent care of our shipments, all along their line; from Mr. M. M. Perl, manager of the Clipper Steamship Line; and from the MacDougal-Southwick Outfitting Company.

Very elaborate statements concerning the new Eldorado had been gotten out by the steamship companies. Some of them were fairly correct, but many were so glaringly inaccurate that one who has spent a season in that country can be only amused at their perusal.

Although a surgeon myself, I had no time to devote to the care of the health of our party, and we therefore took with us Dr. O. W. McMichael. During the season we employed nearly two hundred men, and it proved to be a most excellent plan to have our own surgeon. Many cases of sickness occurring, he had constant recourse to our hospital outfit and supplies of medicines.

I was advised to take drafts, instead of cash. I had, however, a premonition that I might have some difficulty in securing cash at Cape Nome, and so took greenbacks for a large amount, the various members of the expedition carrying them in money belts. This was a most fortunate thing for us, as not only should I have failed in securing, for some time, any money on drafts at Cape Nome, but I even failed to find a place to deposit our money. For some weeks we had to continue to carry this decidedly bulky and disagreeable load.

On June 7th our party sailed from Seattle on the S. S. —, the best steamer of the Cape Nome fleet. We took with us over two hundred tons of machinery, the plant of the Cape Nome Hydraulic Mining Company, which we believed to be adapted to the conditions prevailing at Cape Nome, together with a large amount of coal, lumber, supplies, tents, hardware, etc., etc. The vessel had on board one thousand and nine souls, far more than she was licensed to carry. But, while there were many complaints, there was really no actual suffering from overcrowding, nor was there any lack of anything essential to the comfort



OFFICERS OF THE CAPE NOME HYDRAULIC MINING COMPANY ON THE FIELD OF OPERATION, JUNE, 1900.





of the passengers, although, had we not made so speedy a voyage, our condition might have been pitiable owing to the lack of provisions. As an evidence of the parsimonious policy of the steamship company (which was really one of the best), I have simply to say, that we made the trip in ten days, certainly quite as short a time as could have been anticipated; yet on the morning after our arrival, and before the passengers landed, it was necessary to send to other vessels of the fleet, lying in the offing, for food for breakfast. While we were delayed less than two days in the ice, it would not have been unusual

the year to remain in the ice a week or more. Had it been possible to see what suffering to the passengers would have resulted.

It is an indefensible conduct on the part of the transportation company, the least glaring of the many impositions inflicted upon those who have gone to Cape Nome, as well as on those who have returned during the past seasons. There seems to be no suffering entailed by their carelessness. I know of one case where death has resulted, yet Seattle newspapers, and the law, refused to publish the facts, and long delays of the law were used who sought redress in that manner.

Most of the passengers on board the S. S. ——— were of the same class as that of the community at Nome. About one-third were of the "sporting" class, male and female; one-third was of the "middle" class, who never do well anywhere under any circumstances; and one-third who had no definite plan of any sort. The last class consists of men who had experience in mining and prospecting operations and work at Nome, those who were engaged in the tile business, and professional men. The presence of "sporting" people in a mining camp is one of the greatest evils of its prosperity, and I am not prepared to say that it does the community great harm.

After leaving Seattle, when the passengers commenced to suffer from sea-sickness, disorder became rife on board the ship. It was confined to the officers, but four white quartermasters, and, as a rule, were not troubled, but they were partly plied with liquor by some of the passengers, to the detriment of their service. The balance of the crew were Chinamen, who had been previously in the tea trade. In one fight, which occurred on board, our Captain had his eyes blacked, and, for a time, the rough element was going to take possession of the ship without the Captain's consent and approval, a Vigilance Com-

mittee was formed, of which I had the doubtful honor to be chairman, and by that committee the ship was patrolled day and night until we reached Cape Nome. The Captain's orders were enforced, so far as the management of the unruly element on ship-board was concerned, by that committee.

Our voyage to Nome was otherwise pleasant and uneventful. On fine days the decks presented a curious spectacle. Although the crowd was too great to permit of promenading, people would form in groups for divers recreations. Rival religious meetings were often held, crap games, cards, two or three roulette wheels, rough flirtations and rougher badinage.

On the sixth day ice was sighted and we veered off to the west, towards the Siberian Coast, to avoid it. Icebergs never come through Behring Straits, though immense ice floes filled the horizon to the east and north. Great fragments, detached from the edge of the pack, looked exceedingly picturesque, covered with penguins—those outlandish, solemn birds familiar to us all from our childhood's picture books. Upon one cake of ice, floating past us, crouched a miserable white fox going to certain death by slow starvation. Whales became a common sight and gulls followed the ship in clouds.

On the afternoon of June 13th, we sighted the Aleutian Islands. Our way led us through Unimak Pass, which is the route usually followed by ships, unless it is desirable to put into Dutch Harbor for coal. In that case Akutan Pass is the gateway, causing a slight detour from the direct line.

Unimak Pass is some two miles in width, and constitutes a noble entrance to the waters beyond. Forbidding and tremendous masses of rock loom on either side. Absolutely without vegetation or sign of life, it is, in truth :

“ A lonely land, where no man comes,  
Nor has come since the making of the world.”

The great snow-clad mountain Shilshaldin reared its fiery head nine thousand feet above us. Through the glistening blue ether rose smoke and steam, from the seething lake it cradles in its summit.

Once through Unimak Pass we were in Behring Sea. The air grew colder. The next morning the Pribyloff group came in view. We sighted Otter, St. Paul's and St. George's Islands. Thousands of seal were plainly seen ; one, very beautiful, swam beside us half the day. Air and sea were alive with wild fowl.



FIRST VIEW OF ALASKA—UNALASKA AND DUTCH HARBOR.  
Photograph taken from neighboring mountain top.



All that night we lay in a thick fog. On the morning of the fifteenth a peculiar condition existed. The sun shone brightly about our ship, while beyond, the fog seemed impenetrable. As the day advanced it lifted, and we went on at full speed.

During the last days of our voyage taking photographs at midnight was a favorite amusement. Capital results were obtained from a short exposure, even showing vessels some distance from the ship.

A dreary waste of moss-covered frozen ground, dotted here and there with tiny lakes and intersected with creeks and rivers—rows of black hills stretching away into towering cloud-capped mountains, is the landscape to first greet the eye on approaching land anywhere along the Behring coast.

We arrived off Cape Nome June 17th, finding about thirty vessels there before us. Although the earliest arrivals had preceded us by not more than a week or ten days, some of them had been at sea for nearly two months. The following day most of the passengers landed

## CHAPTER II.

### THE BEACH AT CAPE NOME.

WHEN I landed at Nome City I found over fifteen thousand people. These, I supposed, comprised most of the people who had come to that section, yet I later found that from five to ten thousand more were scattered along the beach for twenty-five miles.

The scene on the beach was absolutely chaotic. Thousands of tons of freight of every conceivable description were piled high, from the water's edge far up the beach, and for two miles along the water front. Everything was in an appalling state of confusion. Machinery, all sorts of supplies, hay, grain, lumber, hardware, provisions, liquor, tents, stoves, pianos, sewing machines, mirrors, bar fixtures,—everything that one may imagine, was there. The delivery of goods to their rightful owners was next to impossible. In many instances, steamship companies claimed that their responsibility for goods ceased when the goods went over the ship's side. As this performance took place about a mile out to sea, a very risky and expensive trip on lighters had still to be made before the landing, through the surf, was accomplished. It will thus be seen that this was hardly a pleasant prospect for shippers of freight.

Goods once on the beach were still far from their destination, even though the actual distance to be covered was not great. Transportation along the beach was either by wagon, at \$10 an hour—and a wagon could only haul a few hundred pounds and move at a snail's pace—or goods could be moved on lighters, which were towed by steam or gasoline launches. The charges made by these launches for such towing were frequently as high as \$500 a day. Prices fell later in the season. Hauling anything on the tundra was next to impossible. Dog teams abounded. Six to twelve dogs, harnessed tandem fashion, could pull a small wagon carrying not to exceed two hundred pounds.

The main street was the only passable street, and this was a surging mass of humanity. Men rushed furiously about, apparently without any particular object. At that date there were one or two frame



GOODS ON BEACH AT CAPE NOME EARLY IN JULY, 1900.





A BLOCKADE ON FRONT STREET, NOMI, JULY 1, 1900.

lodging houses ready for business, but no hotels. A bunk cost \$2 or \$3 per night, according to the character of the place. Very few who had landed had gotten possession of their tents. Thousands slept outdoors on boxes or bales, or walked about all night. It was a difficult matter to tell when it was night and when it was day, as there was absolutely no difference in the amount of light. Restaurants were principally in tents; the cost of a modest meal was from \$2 to \$3; three boiled eggs could be had for \$1; ham and eggs for \$1.50; bread and butter and coffee, 50 cents. The weather at that date was ideal, so that little hardship was entailed by sleeping outdoors.



SOME OF THE CAPE NOME HYDRAULIC MINING CO.'S MACHINERY.

Sanitary arrangements were absolutely nil. The irregular city government did improve matters somewhat by ordering, on penalty of a fine, that all persons, male and female, use public latrines erected for the purpose. Tickets to these places were sold at 10 cents each, or three for 25 cents.

Realizing that to land our freight on the beach, under the conditions prevailing, would entail a delay of weeks in getting out to our beach claims, six miles away, as well as the loss of thousands of dollars for moving, I arranged with the captain of our steamer to move the vessel up to a point opposite our claims, and land our property there.

This I was enabled to do, a little later, without any cost, in view of what he was pleased to call my services to his company. Bad weather and difficulty in landing necessitated our remaining opposite our claims for more than a week. It was not until the first days of

July that we found ourselves landed on our claims and in possession of all our freight.

During all of July the beach was a scene of the utmost activity ; plants of every conceivable description were in process of erection or in operation. The rule as to each man taking a twenty-five foot strip, which I had believed to prevail, was wholly disregarded ; a man used whatever ground his plant occupied. Towards the last of July an attempt was made to hold full-sized claims on the beach, and in some instances soldiers were sent to remove intruders. This action would probably have been strongly contested, and I do not believe that it would have proven legal, for the beach had been frequently characterized as the "poor man's diggings". But most of the people by this time had come to the conclusion that the beach was not worth fighting for, and there was, therefore, no concerted opposition to the attempt to clear a few claims of trespassers. It is estimated that seven or eight thousand men worked the beach with rockers, and that as many more either owned or were employed by, large or small plants. Many of the rockers were painted with bright colors, and, as one rowed up and down near the shore, they resembled nothing so much as the butter and cheese machines at a country fair.

The most popular machines were small centrifugal pumps, operated by gasoline engines, throwing enough water to furnish one sluice head. Of these there were endless numbers whose explosive puffs could be heard above the roar of the surf, night and day. Many were the devices calculated to work beneath the sea. Of these our plant was the largest, though we had numerous smaller plants.

The camp of the Cape Nome Hydraulic Mining Company was, I believe, the model camp on the beach. Our tents were of the best quality, all large, and were put up, not on poles, but on frames erected for the purpose. The sides were boarded up and flooring put in. Stoves were in all the tents, and one extra large tent was entirely devoted to the drying of men's clothing.

I believe that much of the sickness on the beach was due to the fact that not all tents had floors, and thus men were unable to keep themselves warm and dry. We had everything to eat which can be put up in cans ; and most of the time we had dessicated potatoes, onions and other vegetables. Large amounts of beef and mutton were sent up in cold storage, and not a little beef on the hoof. The "Skookum", whose dimensions were really colossal, brought up a great many cattle.



ROCKERS.  
"THE HAND THAT ROCKS THE CRADLE,"



Although it became warm toward noon in July, we had no difficulty in keeping all perishable articles of diet in an excellent state of



CAPE NOME HYDRAULIC MINING CO.'S BEACH MACHINE AT WORK.

preservation. By digging down a few feet one could always strike ice, on which butter and such things could be put, the whole covered over with boards and a piece of canvas. Such made ideal ice chests.



REAR VIEW OF CAPE NOME HYDRAULIC MINING CO.'S BEACH MACHINE, SHOWING SLUICE BOXES, PILES OF COAL, AND TRACK ON WHICH MACHINE RAN OUT INTO THE WATER.

We had made elaborate preparations to fight mosquitoes, and had bolts of mosquito netting, and various sorts of mosquito-proof head-

gear. But we had no use for any of this while we were on the beach, though it would have been useful had we gone to the creeks during the warmest weather. I never saw any mosquitoes on the beach.

In August the scene changed. The beach was dismal beyond description. The rains had set; much of the machinery was abandoned, covered with rust and sinking in the sand; the exhilaration of hope, which had fired the miners a month earlier, when they were getting ready their plants with money they had brought up with them, had vanished. Most of those who still worked on were trying to get a stake on which to leave the country.

We were ready for operations on the 17th of July. For nearly a month we literally swept the bottom of the ocean in front of our claims. The machinery was admirably designed, doing all and more than had been claimed for it. We handled thousands of tons of sand, in all of which there were particles of gold, but never in paying quantities.



GETTING A SMALL PUMPING PLANT OVER THE TUNDRA TO A FRESH WATER LAKE,  
TO PUMP WATER FOR OUR LARGE ENGINES.

A majority of the plants had given up long before we reluctantly acknowledged that our enterprise, so far as concerned that field of operation, was a failure. The fact was that the richest of the deposits of gold on the beach had been taken out during the preceding season, and that gold, in paying quantities, never existed below the water line. I am inclined to believe that those who had taken it out fully expected that infinitely richer deposits might still be found, but it was not so. Nine-tenths of the men who worked plants on the beach made dismal

failures, some of the remainder made expenses, and a few happened to find rich spots and made some money. Men with rockers made fair wages, \$5 to \$25 a day, early in the season, and a bare living later. The man with the rocker was able to move about looking for good spots, was under little expense, and many of those, who were industrious, did well.

While it is not to be denied that gold exists along the whole vast coast, from Cape Nome to Cape York, it is a positive fact that it does not exist in sufficient quantities to yield large returns for extensive operations, and up to September 1st, the Cape Nome Hydraulic Mining Company was as dismal a failure as it is easy to imagine.

Forced to acknowledge our defeat, we housed our plant and turned our attention to the creeks. At this time there was every temptation to sell our machinery for what it would bring, and return to civilization.



## CHAPTER III.

### NOME CITY.

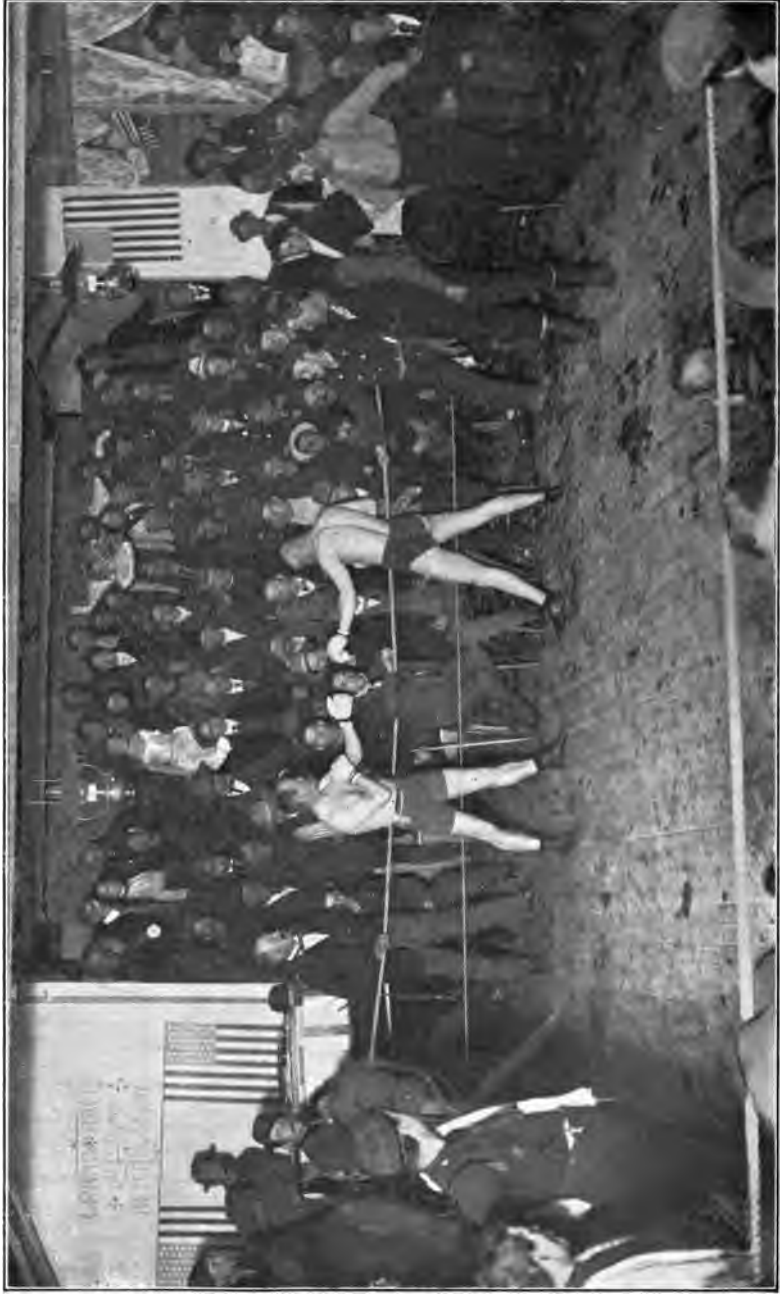
AS late as July, 1899, Nome City was nothing but a city of tents. By the first of August over fifty buildings had been erected and many more were in process of construction. Lumber was very scarce and sold for \$160 a thousand feet. Carpenters were in great demand and commanded high wages. In a very short space of time Front street was lined with shops, saloons, dance halls, gambling houses and restaurants of all sizes and shapes, open for business day and night. Late in August the United States Military barracks were completed.

When I arrived at Cape Nome, in June, 1900, most of the people were living in tents. There were hundreds of more or less flimsily constructed wooden buildings. When I left in October, the winter had set in, and few people were still living in tents. The buildings of Nome were, many of them, highly creditable and were sufficient in number to accommodate the ten thousand people who would remain there all winter. Several well built hotels existed, and a large theatre in which a typical western variety show could be seen, as well as weekly prize fights.

Early in the season the main street, called Front street, was deep in dust, because it really was part of the beach. All streets further away from the water's edge were impassable on account of the mud. After rain set in, in August, even the main street became a "slough of despond". The only thoroughfare having the slightest pretension to paving was Steadman avenue, otherwise known as "Hogan's Alley", which was planked over, and on which the Cape Nome Hydraulic Mining Company has its offices. Prices of commodities were exceedingly high during the winter of 1899 and 1900 at Nome City, but fell materially when vessels came in, after the breaking up of the ice. The great quantities of provisions shipped in at that time caused a distinctly bearish movement in prices. This was only temporary, however. The prices I quote were those which prevailed towards the latter part of August, when many vessels were still due to arrive before winter set in, and which can therefore be taken as average prices.

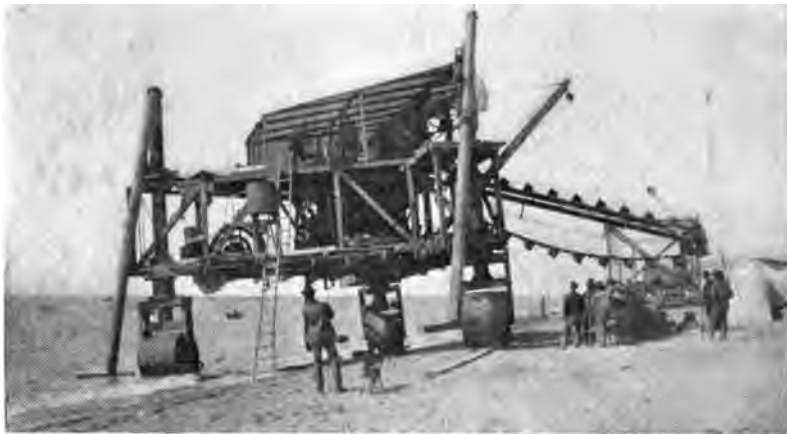


NOME CITY, SEPTEMBER 15, 1900.



A NIGHT AT THE OPERA, NOME CITY.

With the opening of navigation thousands of tons of goods were landed on the beach and thrown on the market. The water front for miles was a scene of barter, and goods were sold for what they would bring. The result was a thorough demoralization of prices, Seattle market rates being quoted in many instances. The legitimate dealer was brought in close competition with the beach dealer, who was at little or no expense. Outfits could be bought very cheaply. Eggs which earlier in the season sold as low as \$7 a case, sold late in August for \$15, and were not plentiful at that. Potatoes sold at 7 cents a pound, or \$9 a crate. Bacon was scarce, but sold at 30 cents a pound. Hams were plentiful and sold at the same price. Sugar retailed at 15 cents a pound, while flour could be had for about \$9 a barrel, or \$2.50



A CONTRAPTION THAT WAS DESIGNED TO RUN OUT INTO THE WATER ON BARREL-LIKE WHEELS. IT PROVED SO HEAVY THAT IT WAS NEVER MOVED.

a sack. Coal oil, which the winter before commanded \$10 a case, could then be had at \$5 a case. The best brands of condensed milk were quoted at \$11 a case. The market was well supplied with butter at 75 cents a pound. Fresh fruits of all kinds were plentiful. Lemons and oranges were quoted at \$6 a case, while apples were to be had at \$4 per box, the quality not being super-excellent, by any means. Lumber sold for fabulous prices early in the season, but late in August brought \$60 per thousand feet. Coal of a good quality then sold for \$30 a ton, but after the great September storm, none sold for less than \$60 a ton.

Numerous storms visited the coast near Cape Nome during the

season. Behring Sea is a shallow body of water, easily lashed into fury, and capable of doing great damage to ships and buildings near the water's edge. Whenever storms arose, ships all put to sea immediately, and it was not an uncommon thing to see forty or fifty vessels lying in the offing, and an hour later not one in sight. Notwithstanding warnings from old timers, many newcomers built near the water's edge and these suffered loss from storms. The great storm of September 12th destroyed more than \$1,000,000 worth of property and rendered hundreds of people homeless. All the buildings on the south side of Front street, in the western portion of Nome City, were swept away and destroyed. By order of the military authorities that side of the street was not rebuilt.



THE BEACH CAMP OF THE CAPE NOME HYDRAULIC MINING CO. THE KITCHEN AND STORAGE TENTS WERE ON THE EDGE OF THE TUNDRA. ALL OTHER TENTS WERE ON THE BEACH.

Nome City was remarkably free from the disorder and lawlessness usually associated with a mining camp. There were a few murders, some robberies, but, on the whole, hardly more crime than would have existed in any town of similar size in the United States.

The most fatal diseases were typhoid fever and pneumonia, but there were not a great many cases of these. In this connection it may not be in apropos to mention the most remarkable instance of theft of which I have ever heard. The Nome City cemetery was on the edge of the tundra, just west of the city limits. As the tundra is solid ice to a not yet discovered depth (I have put a prospect drill sixty feet down, all the way in ice and frozen ground), graves had to be literally

hewn out, with much labor. Two men, after preparing and digging a grave, had gone to town for the body. Upon their return, they discovered that another corpse not only occupied their grave, but that it had been filled in and a head-board erected. Not being willing, naturally, to evict even a trespassing corpse, although their own "claim" had been clearly "jumped", they dug another grave.

Small-pox existed in July, although few of the cases were fatal. The number of persons affected was greatly exaggerated in stories sent to outside papers.

The term "outside", by the way, is something of a misnomer. It is an importation from the Klondike, where the use of the word, in the same connection as it is used at Nome, is eminently proper. That is an interior country, but the residents of Nome City can scarcely be called such, since they live on the sea coast. However, the name seems to fit, hence it is used. In referring to the outside world, the people of Juneau, Skagway, and Southwestern Alaska, generally use the word "below". Thus the papers in chronicling the arrival and departure of steamers say, for example, that "such and such a vessel arrived from below". Of the two words, so far as the Behring Sea coast is concerned, "outside" seems to be the most acceptable.

Nome had a number of sick and destitute people, who were deported by the military authorities. But even among this number there were many too lazy to work, and not worthy of receiving aid. There was plenty of work for those who chose to take it. Any industrious man with a rocker, which he could build himself, could always go to the beach, and, in a week or two at most, rock out enough to pay his fare to the outside.

## CHAPTER IV.

### THE CREEKS.

WITH a singleness of purpose, which now seems scarcely commendable, I had devoted my time to the beach alone, confidently expecting that we were going to make a fortune there. While I was aware that work was being done on the creeks, I paid little attention to it. It would have been infinitely better for us had I gone to the creeks in the first place ; but the principal reports on Cape Nome had been about its beach. Now that I had tested this, I turned to the country lying among the hills.

Here were innumerable creeks and gulches, and ancient waterways. I found that as great a number of men as had been on the beach were working on creek claims. A very large majority of them were making money.

Acting in the interest of our directors and stockholders, I acquired claim after claim, sent out numerous prospecting parties and made every effort to snatch victory from defeat before the waters of the creeks and lakes should be locked in icy fetters for the long dark winter. We opened a number of camps, and while in many instances work was done to no purpose, we were finally gratified with the knowledge that we had "struck it rich", in at least five different places.

The work on the creeks was being carried on without machinery ; in most instances with sluice boxes, where water was plenty, and with rockers, where water was scarce. Suffice it to say, that, although the season was far advanced, we struck rich "pay-dirt" on a sufficient number of claims to do much toward retrieving the losses of the earlier part of the season and to give us positive assurance for next season.

When on the first of October, water froze in the sluice boxes, we were taking out such handsome daily profits that it was with great regret we were compelled to abandon our claims to the watchmen, who went into winter quarters.

When I first landed at Cape Nome a former acquaintance had asked me to purchase a claim on Nakila Gulch for \$300. I went to see it and thought it so unpromising that I had no hesitation in refusing it at any price. Early in August that same claim was sold



SLUICING ON CLAIM NO. 1, BELOW DISCOVERY, ANVIL CREEK. ABOUT A MILLION IS SAID  
TO HAVE BEEN TAKEN OUT OF THIS CLAIM.





for \$150,000, after the owner had taken \$75,000 out of the ground.

Innumerable instances of the same sort occurred in almost every district in that section of Alaska.

How much money was taken out will never be known. Although many millions passed through banking houses, express companies, transportation companies, and the assay office at Seattle, I firmly believe that an equally large amount was brought out by individuals, who chose to take the risk of carrying it themselves, rather than pay the high charges otherwise necessary.

The resources of the numerous mining districts of the Sumner Peninsula, the Eldorado, Discovery, Norton Bay, Blake, Big Four, Cripple, Sinrock, Fairview, Granite, Bonanza, Cape York, Koyukuk,



ANVIL ROCK, FROM WHICH THE FAMOUS CREEK AND MOUNTAIN ARE NAMED.

Bluestone, and others, are just commencing to be known. Prospecting was done on a large scale in all of them during the past season, and in many of them large amounts of gold dust were taken out. For the most part the work done was only such as to demonstrate the existence of gold, and to prepare for the following season's work. "Bluestone" seems to be the richest, and the already famous "Gold Run" bids fair to be infinitely richer than Anvil Creek, which has been, up to now, the greatest producing creek in this section.

Nome nuggets are found with a frequency that renders them sufficiently important to be selected as the title of this compilation.

There is probably not one single gold nugget, larger than of a dollar's value, in all the beach sands from Cape Nome to Cape York,

but nuggets are found everywhere that creek and bench claim placer mining is carried on. The collection of nuggets illustrated in this work



SHOWING DAM DRAIN AND A FEW LENGTHS OF CANVAS HOSE ON CLAIM  
No. 5, ABOVE, ON ANVIL CREEK.

came from one of the Cape Nome Hydraulic Mining Company's claims, known as Number 5, above Discovery, on Anvil Creek, and most of them were found in the sluice boxes at regular "clean-ups".



SLUICING ON CLAIM NO. 5, ABOVE, ON ANVIL CREEK.

Our mode of mining on Number 5, Anvil, was to divert the waters of the creek by the erection of a dam. Huge canvas hose led the water

where we required it for sluicing purposes or carried it away in such a manner as to leave the bottom of the creek dry.

It has often been asked how we could protect ourselves from losing valuable nuggets. Every day the auriferous material is thrown into the sluice boxes with long-handled shovels, and the gold, of course, falls into the riffles and strips and is caught in these devices along the sluice boxes. No one but the superintendent and mining engineer ever thinks of looking into these sluices; a miner who should be seen examining the sluice boxes would be immediately discharged from any claim. Number 5, Anvil Creek, produced the largest nugget found in that section this season, which has been very extensively admired, not only on account of its value, but on account of its beauty. It is considered a magnificent specimen, and weighs a pound and a half. From our claims on other creeks we got an entirely different class of gold and nuggets. While all the gold is of about the same value, the chief difference lies in color and form. Some of the dust and nuggets are nearly black; other specimens are bright as though burnished. Some of the coarser dust and smaller nuggets are of rough and irregular shape; others are smooth and scale-like; and a few contain some quartz.

There are so many different varieties of gold on the peninsula as to lead an inexperienced observer to suppose that they must have been mined in localities separated by considerable distances; but the old peninsula miner soon becomes sufficiently expert to locate them and tell the exact district from which specimens come.

During the two months which had elapsed probably thirty thousand people landed at Cape Nome. Nearly one-half of that number soon returned to the places whence they came, disheartened, discouraged, and with little but denunciation of Nome and that section on their lips. Many of those still remaining were deeply disappointed because their high expectations had not been realized. I was charitably disposed toward those who were despondent, and I don't even feel like censuring those who have returned home with evil tales on their lips and hatred of all things Alaskan in their hearts. All this was to be expected. A country condemned without just cause can stand considerable adverse criticism. Many people blamed conditions, not themselves, because they failed to achieve the success they anticipated.

There is a lesson in the great rush to Cape Nome of last spring; the lesson here is the hard, practical one of every day life, teaching

men that, except in rare instances, the accumulation of wealth is not the work of a few months, but years. It is the task of a life time, often several life times, and to that it need hardly be added, the great majority of people never attain.

That the tales of the great riches of Nome, which were told last autumn and winter, were beautifully exaggerated, was not the fault of the country. That these tales brought disappointment, sorrow and loss of money, cannot consistently be charged to its debit account. Too much was expected of a country in its chrysalis state.

Developments of the past summer have demonstrated that the faith of those who know its possibilities was not misapplied. Yet the development of this section has scarcely begun.





NATIVES.

## CHAPTER V.

### THE NATIVES OF THE FAR NORTH.

THE natives of the Seward Peninsula, numbering about eight hundred, are Eskimo, or as they call themselves, Innuits. They are, in general, scattered along the coast, with several more or less centralized settlements about the missions and reindeer stations, at Port Clarence, Cape Prince of Wales, Golovin Bay and the Cape Nome region. They usually live in small villages of eight or ten families, crowded in crude, underground huts or dugouts, supporting themselves by hunting and fishing. They are a good-natured people and generally industrious. The youths are reported to be apt in the mission schools.

Prior to the recent discoveries of gold, the only whites on the Seward Peninsula with whom they came in contact were the few Americans in charge of the several missions and reindeer stations, and a score or so of Swedes and Laps employed as herders.

Since the advent of the gold-hunter with his attendant dissipations, the mortality among the tribes on the coast of the vast gold-bearing peninsula of Alaska, between Norton Sound and Kotzebue Sound, has increased to such a rapid and alarming extent that the native population is in danger of becoming extinct. The diseases which are carrying them off are consumption and pneumonia; before these their constitution seems to be helpless. Wherever possible, the whites have been helping them; but when once attacked, it has become apparent that only the hand of Providence can snatch the sufferer from the grave. Whole families, and even tribes, have died off; and there is more than one case where children have been left without parents or a single relative to look after them.

Great stoicism is shown, as a rule, by the native sufferer, while in many instances the deaths are pathetic in the extreme. So strongly superstitious are they that they will not remain in the neighborhood of a corpse if they possess enough strength to drag themselves away. On this account the United States Government has met with much difficulty in caring for the sick. If too weak to crawl, a native lies in a state of absolute terror when he knows a dead body is in the camp.



Out of an Eskimo population of several hundreds on St. Lawrence Island, thirty-six are reported to have died within the last few weeks. The villages all over this section of Alaska have been decimated. Scores of deaths have occurred at St. Michael, Golovin Bay, Nome River, Port Clarence, Grantley Harbor, Cape Prince of Wales, Sinrock and on the shores of Kotzebue Sound. The story told by Guy N. Stockslager, who has been superintending the relief expedition sent by the Government authorities to various points along the coast, defies duplication. He went as far to the northwest as Cape York, and all along the coast, wherever there is an Eskimo village, the conditions above described exist.

A murder, inspired by superstition, occurred at Teller City, where, in the hope that his act would appease the evil spirit which was bringing such affliction on his people, a native chief brained, with a bone hatchet, the medicine man of the tribe, whom he supposed was responsible for the prevailing epidemic. A few weeks later consumption sent the chief to the happy hunting grounds. Thirteen deaths have already taken place at Teller City, and nearly every native in the place is ill. Provisions for distribution were left there with Rev. T. L. Brevig, a missionary.

Four miles west of Behring City nine dead bodies were found in huts.

Out of a population of twelve natives at Port Clarence, two only are left alive.

The revenue cutter "Bear" is taking supplies of provisions and medicines along the coast and leaving them where needed.

It seems that death and deterioration follow wherever native Alaskans come in contact with the white race. This is evident not only in the country around Nome, but in Southeastern Alaska and almost every section of that coast. The causes lie not so much in whiskey, dissipation and blood disease, as in changes in their manner of living. The Innuite puts off his native raiment, discards the food to which his constitution and the constitution of his forefathers have been accustomed for generations, and substitutes for his fur and his seal oil and dried salmon the manufactured clothing and food of civilization. There is not much room for wonder that colds, consumption and pneumonia follow.

The United States Government, acting through General Randall, has established a reservation at the mouth of Nome River, about four miles from the city of Nome, where as many sick natives as can be

found, are being "herded" and provided for. The deadhouse there has had to be abandoned on account of the superstition among the Eskimos. As long as it existed, when the news that a death had occurred got abroad, great commotion and excitement prevailed. There have been a number of instances when patients have fled down the beach, running till they dropped dead or exhausted, to escape from the, to them, dreadful vicinity. A corpse preserved any length of time they believe brings famine, disease and death.



NATIVE RECEPTION DAY ON REVENUE CUTTER "BEAR." (WHEN THE "BEAR" DROPS ANCHOR OFF AN ESKIMO VILLAGE THE WHOLE POPULATION FLOCK ABOARD.)

The natives, with their dark skins, dark eyes, high cheek bones, straight hair and small stature, seem to be of Mongolian origin. Expert carvers in bone and ivory, the sale of such curios was last summer a source of considerable revenue, though they take little thought for the morrow. With skin boats, dog teams and reindeer, they make long journeys.

Probably the most novel and exciting trip in the world is a voyage along the shores of Behring Sea in a native Alaskan boat drawn by a dog team. The idea of towing a boat will be sure to re-

mind the Eastern reader of a trip through one of our large canals, with the patient, plodding mules dragging the huge boat at a snail's pace along a placid waterway, the banks of which are lined with rich meadows and green pastures, dotted here and there with cozy, picturesque farm houses, and the journey punctuated with an occasional village, where the conditions are somnolent, and the bark of the dog or the braying of a long-eared semi-equine hybrid is real excitement.

The Alaskan voyage uppermost in my memory stands out so strongly in contrast with the foregoing, that the picture is as vivid as though more recently drawn. To begin with, the vessel, in which the trip was taken, is of a distinctly unique type and construction, called a *oumiak*. The framework is made of beautifully finished and finely-fitted bits of driftwood, fastened together with leather thongs so securely as to be perfectly safe, and yet pliable to an astonishing degree. Over this basket-like structure a covering of porpoise hide is stretched and so carefully sewn, as to be absolutely water tight. The boat is, in shape, not unlike the ordinary whale boat, usually about twenty feet long, with graceful lines, and capable, under favorable conditions, of transporting a very heavy cargo.

The natives frequently load to the water's edge, using the dog teams to tow them along the surf line until they reach the mouth of a river or bay, when a halt is made long enough to take the dogs and drivers on board. Paddles are then resorted to until a landing is again made.

With two companions I embarked in one of these frail craft for a journey of twenty miles down the coast. A team of five "husky" dogs was attached to a fifty foot tow line of porpoise hide. A native steersman formed our working crew, while the offices of chief engineer and assistant were filled by a native driver, who remained on the beach. When everything was in readiness and we were sitting in the places assigned us, the Eskimo seized the little boat, which was rising and falling and sometimes dancing on the waves, as though impatient to be off, and ran it into a line of breakers where the water was about three feet deep. While we were embarking the dogs sat idly by, watching us from the beach; but the minute the *oumiak* reached water deep enough to float her nicely, and swung around parallel with the shore, an exciting change occurred. All was animation. The dogs sprang into their harness and started off down the beach at a rattling pace, encouraged by the driver, who ran behind them, cracking his whip and shouting at every leap. The Innuite in the bow of the

boat kept a tow line perfectly steady, gradually raising it with his instrument sufficiently to insure its clearing a piece of drift wood or a partly submerged rock, while the man in the stern, by a series of careful, dexterous and skilful strokes, managed to keep the boat just outside of the edge or wash of breakers, and we were off. Surely our voyage resembled the flight of the sea-gull more than a boat trip along the shore. One moment our little craft would be lifted on the crest of a wave, with what seemed to be a certainty of being dashed to pieces on the sands or rocks; at times we flew along, for an instant, high above the heads of the dogs, with the tow line clear of the water all the way between the team and boat; the next moment we were down in the trough of the sea, with nothing visible but the cold grey waves and the leather line, connecting us with the shore, cutting swiftly through the angry waters. Nothing was audible but the ceaseless roar the surf, with occasional shouts, or rather explosions of bad English and unprintable Siwash from our driver. The ride, itself, was most exhilarating; but the principal fun consisted in watching the dogs become tangled in the rockers along the beach, and in clearing the tow line over the various obstructions. Miners' hats were swept off and not a few had their feet knocked from under them. Everyone, however, laughed and cheered as he dashed along, calling to them not to "obstruct navigation".

We finally arrived safely at our camp; our mode of travel was exhilarating in the highest degree, and we all voted it the most agreeable to be encountered anywhere in the vicinity of the Arctic circle.

The native idea of a circulating medium is so hazy as to defy description. Intercourse with the white traders, from the earliest exploration down to the present time, has merely taught them that the skins of the animals they trap for food can be exchanged for certain commodities which white men have been in the habit of bringing into their country; and, as the trader has always been in the habit of naming the value of the article, it will be seen that their knowledge of the purchase, compared to that of the American, is very limited. To illustrate: the price of a good dog on the peninsula during the past year has been from \$100 to \$150. A miner meeting a native, a little distance into the interior, was attracted by the appearance of one of his dogs and desired to purchase the animal. On asking the price the native replied, "I will take \$100 for the dog, or a bottle of whiskey."

Tea, coffee, sugar, cloth, knives and hatchets are the things they

most desire to barter their furs for. They use little tobacco, the habit having never taken the same hold upon them that it almost invariably has on natives who come in contact with the whites. Despite that fact and the many attempts made to care for them, the Alaskan is disappearing from the face of the earth more rapidly than any other distinct people.





BEACH AT CAPE NOME AFTER A STORM.

## CHAPTER VI.

### THE GREAT STORM OF SEPTEMBER 12TH.

NOME'S waterfront emerged on the morning of September 13th from the most terrific storm which has ever beset it in the knowledge of her white inhabitants. The spectacle unfolded by the return of daylight, was grand and yet appalling. Though the fury of the wind had somewhat abated and the tremendous tide had partly receded, the angry sea still raged. An untold quantity of debris—lumber, piles, wreckage of ships, barrels of liquor, tents, sails, masts, building paper—covered the surface of the near waters and tumbled about in wild confusion in the clutch of the surf.

Only through a personal inspection could one attain a conception of the wonderful spectacle. The people in thousands braved the elements, throughout the night and day, to view a scene which will leave an everlasting impression on their memories. Worst of all was the loss of life which attended the storm. The number of deaths will never be known, but that they must have been numerous is undoubted. Hundreds of the inhabitants of Nome were bereft of their small belongings and rendered homeless by the washing away of their tents and houses; and this extended far up the Snake River and Dry Creek bottoms, as well as for miles along the beach.

On the afternoon of the 12th, at 3.30 o'clock, a southeaster was piping a gale. The mammoth barge "Skookum", staunchest of all the storm-tossed fleet, after battling the season's elements, dragged her anchor and started on the journey towards the beach and destruction. After the "Skookum" had struggled an hour or so, the little tug "America", and a steam launch, which were tied astern of the doomed barge, began to show signs of succumbing to the heavy sea. They popped and bobbed about it on the crest of the swell until they both were caught broadside in the waves, and went down, with those on board.

Fully a thousand excited people crowded down the beach, as close as it was safe to do so, to watch the "Skookum" grind her vitals on the sand. In the long drag from her mooring she did not swerve to



the right or left more than a hundred feet. She drifted broadside towards the shore and landed upon the beach just below the lower extremity of the military reservation. The waves broke clear over the ill-fated barge and carried away everything that was not securely lashed down. For fully an hour the great strength of her hull and keel stood the merciless pounding before breaking. Shortly before midnight, however, when the storm and surf were at their height, the "Skookum" with a mighty crash broke in two.

The thirteen men who were aboard did not succeed in getting ashore until 3 P. M. Several of them made frantic efforts to leave the barge, but the cooler heads restrained them. They succeeded in getting aboard a lighter that was wedged between the "Skookum" and the shore, and from the lighter they were dragged, one by one, by a coil of rope through surf and wreckage. Several men were severely scratched and bruised, but none seriously injured.

With the sudden rising of the tide, the monster breakers came surging in from sea, carrying ruin and destruction before them. Buildings along the south side of River street were picked up bodily, for a distance of two blocks, and dashed against those of the opposite side. Many of these were immediately wrecked and the pieces carried away by the waves; others, more substantial in construction, held out for varying periods; nearly all were, in the end, reduced to kindling wood. Those buildings beyond the reach of the waves were flooded with water. Only in a few instances were goods saved, so unexpected and sudden was the onslaught of the waves. Self-preservation became the first great care, the saving of property was subordinate to the saving of lives.

The "beach combers" were out in full force, tempted by the valuable articles to be snatched from the waves. Thousands of feet of lumber of all kinds were thus secured, while many drew up sashes and doors, tents, boats, coal, whiskey, beer and even champagne. The soldiers were early put on guard and some property was saved to the owners. Many collisions between the military and "beach combers" took place, and a number of arrests were made. Considerable drunkenness also followed the recovery of the barrels of liquor. Hundreds of hustling fellows devoted themselves to laying up fire wood. Various estimates were heard of the number of persons rendered homeless by the waters, the general opinion being that one thousand was a reasonable figure. That many of these unfortunate ones suffered severely is undoubted.





WRECK OF THE BARGE "SKOOKUM."

A serious loss to the camp was the ten thousand tons of coal drawn into the sea. Owing to the lateness of the season this could not be replaced, and the supply of fuel for the winter was accordingly short. The price of the article being materially increased thereby, another hardship was thus entailed on the people as a result of the storm.



**E. H. BROWN,**  
**Assistant General Manager, Cape Nome Hydraulic Mining Company.**

## CHAPTER VII.

### THE BLUESTONE DISTRICT.

[By E. H. BROWN, Assistant General Manager of the Cape Nome Hydraulic Mining Company.]

THE Bluestone Mining District is that part of the old Port Clarence District to the east of Port Clarence and south of Grantly Harbor. It is about eighty miles, as the crow flies, to the north and west of Nome, and about one hundred and fifty miles from Nome by water. The trip overland is a very difficult one, the country being rough and desolate, so that to accomplish it in a three days' journey is fast travelling.

As Nome is the headquarters for all that peninsula of Alaska formed by Norton Sound on the south and Kotzebue Sound on the north, when the big "strike" in the Bluestone was announced the steamship companies immediately advertised transportation there from Nome. The fare, first-class only, was \$15 on all the little steam schooners, as the "Albion", "Aloha", and "Discovery", and \$10 on the sailing ships. Starting from Nome at night, the steamers arrived at Grantly and Behring City the next noon. Every boat was crowded with people anxious to be the first in the big rush.

The entrance to Port Clarence is especially picturesque. On the right is the long, low sand spit, in the lee of which is the Whaler's Anchorage, while on the left is the Cape York coast, and the end of the great Rocky Mountains—a bare, rough range of hills dropping off into Behring Sea at almost the extreme western point of North America.

The "strike" was known early in August, but the first boatload did not reach Grantly and Behring City till August 26th. Between these two "cities"—for every settlement in Alaska is called a city—was a great rivalry as to which would be *the* city. In a few days the question was settled and Behring City, once called Port Clarence, fell hopelessly to the rear.

There was the greatest confusion in Grantly, people taking up, or jumping, town lots, erecting tents and wooden houses with lumber at

\$160 a thousand, and holding town meetings to regulate size of lots, position of streets, laws, etc. The U. S. Commissioner and Recorder for the whole district, Judge Rognon, announced that he would stay in Grantly, practically settling the fate of Behring City.

On the twenty-eighth of August, the people of Grantly changed the name of the town to Teller City, thus acquiring the post office privilege of the old and abandoned Teller City on the opposite side of Grantly Harbor.

The new Teller City will be the gate to both the Kougarok and Bluestone Districts. These already more than rival Nome itself in richness. Teller has a capital harbor. It is situated on the sand spit which separates Port Clarence on the west from Grantly Harbor on



GOLD RUN, THE PHENOMENALLY RICH CREEK IN THE BLUESTONE DISTRICT.

the east. Almost in the middle of the city is a fresh water lake of considerable size.

Grantly Harbor is the entrance to the very rich Kougarok District, in which we acquired numerous claims. This district lies about seventy miles to the east and north of Teller City, and can be reached by boat up the river. The Kougarok country has a plentiful supply of timber, most of it being willow. Garfield and Quartz Creeks are the best known, and are proving very rich, some ranking them higher than Anvil Creek.

Gold Run Creek, where the great "strike" in the Bluestone was made, is about eighteen miles from Teller City and sixteen miles from Behring City. The trail runs over the worst country that was ever

made, entirely void of trees, covered with moss and "niggerheads"—the only and original "niggerhead" that looks like a solid hummock of grass, and tips over at a touch, tending to sprain ankles or give bad falls.

Gold Run is a tributary of the Bluestone River, or rather, it unites with the right fork of the Bluestone to form the river. Small boats can go up to within four miles of the mouth of the Gold Run, and many of the miners go in this way.

All this part of the country was located early in the spring, and then recorded in four different districts, there being then no recorder for the Bluestone District. This led to great confusion at first, as in some cases the same claim was recorded by different people. Gold Run was the great sufferer in this way, having been located under the name of Matilda, Eureka, and Gold Run, and having three discovery claims. Claim Number 9 above the mouth, for some strange reason was overlooked in the locating, and some "chechakos", or newcomers to Alaska, located it in July, making the "strike" of the season, for they found pay-dirt on the top of the creek bed that ran from 50 cents to \$10.00 to the pan.

The other claims, both up and down the creek, were immediately grabbed and prospected, and gold was found in great abundance.

All of the Bluestone country is very desolate. Not a tree is to be seen, the only foliage being a few stunted willow bushes in the creek-beds. There are many salmonberries and blueberries, and some small flowers, but there is almost no life in the country at all. Once in a long while one sees a few ptarmigan, but they are too scarce to be relied on at all for food. The only thing of which there is a great plenty is water.

The Government Reindeer Station is a few miles from Teller City. The Lapp and his wife, who are in charge there, go to town frequently to watch the rush for gold. They make a very picturesque sight as they wander about in their odd Lapland dress.

There is a great future for the Bluestone District. It will be richer than anything the Klondike can boast, and the indications are that the claims of the Cape Nome Hydraulic Mining Company, located in this district alone, will clean up enough gold to more than satisfy the most exacting of the officers of this concern.



## CHAPTER VIII.

### ROUTES TO THE GOLD FIELDS.

THE shortest and quickest route from the States to the Nome region is by ocean steamer. From Seattle we traverse the northern Pacific Ocean and Behring Sea direct to Nome. The distance is about two thousand seven hundred miles ; and, under favorable circumstances, ten days are required to make the trip. Some of the largest and most commodious steamers of the Pacific coast ply on this route. A stop for coal and water is usually made at Unalaska, between the Pacific Ocean and Behring Sea. Freight rates from Seattle to Nome are usually quoted at \$40 per ton, first cabin passenger rates \$100, and second cabin \$60.

On account of the ice in Behring Sea, the season for ocean transportation to Nome is, as a rule, restricted to a period of five months, *i. e.*, from early June to early November. During the remainder of the year the northwest coast of Alaska is icebound, and not accessible by vessels.

Another summer route is the inland or Yukon route. This is by ocean steamer from Seattle to Skagway ; thence by the White Pass and Yukon Railway over the Coast Range to Lake Bennett, the headwaters of the Yukon. From there we go by boat down the Yukon to St. Michael, and there take steamer for Nome. This route is not nearly so direct or expeditious as the all-ocean route, frequent changes and delays being usually involved. There is a change of river steamers on the upper waters of the Yukon, covering Miles Canyon and White Horse Rapids. The portage around this is three miles by horse tramway. Skagway is open to ocean vessels the year round ; but, as the ice does not leave the lakes and the Upper Yukon until nearly June, the route offers little or no gain to the Nome-bound passenger, so far as reaching his destination early in the season is concerned. As a return route the Yukon is not practicable. No boats leave St. Michael later than the first week in September, on account of the ice which later in the month forms on its upper waters. The chief advantage of the Yukon route consists in its enabling the passenger to escape an open sea voyage.

Travel and transportation in the Nome region are principally by small boats, along the coast, waterways and streams of sufficient size. Across the country there are as yet few definite or well-marked trails. The country is not, however, of so rugged a character but that one can, without much difficulty, proceed in almost any direction. During last summer several pack trains of horses were employed in conveying freight and supplies from Nome to the gulch diggings. Teaming by wagon to these points was also done. About Nome, during the summer season, freighting is accomplished on wheeled vehicles drawn principally by dogs and horses, notwithstanding the fact that the undra is usually soft for horse footing.



DOG TEAM AND PILES OF FREIGHT, NOME BEACH, JULY, 1900.

Charles D. Lane built four miles of railroad from the beach, at Nome City, to Discovery Claim on Anvil Creek. The transportation facilities of this road were taxed to their utmost throughout the season, and the enterprise was immensely profitable.

The use of dogs for sledding in this region has long been too well known to require further mention. The dog, however, is reported to be much surpassed by the reindeer, recently introduced into Alaska, especially in districts where the reindeer moss abounds, as on the Seward Peninsula. The chief advantage of the reindeer consists in the fact that it is not necessary to carry fodder, since the deer can subsist upon the moss wherever camp is made. There are at present some one thousand or one thousand two hundred government reindeer on the

Seward Peninsula, scattered principally in stations along the southern part and on the coast, with centers at Golovin Bay and Port Clarence. Dogs are usually scarce in Alaskan mining regions during the winter season, on account of the fact that many people are off with their dog teams for one purpose or another. At Nome last fall an average dog was worth from \$50 to \$100. A fair team generally consists of about nine dogs. In reindeer freighting the Lapland freight sled, shaped like a boat, is employed. A collection of these sledges was seen on Anvil Creek. They are usually drawn by one or two reindeer.



STABLES OF THE CAPE NOME HYDRAULIC MINING COMPANY.

Where real sleds are used the sleds are very low and the runners wide. A trained, or draft reindeer, is worth about \$150.

Unfortunately there are no harbor facilities for ocean vessels in the Nome region. The only representative, or semblance, in this line is the lagoon-like inlet known as Port Safety, about twenty-five miles east of Nome. It, however, is suitable only for small boats and for craft not drawing over eight feet of water.

Port Safety, however, as stated, can in no wise accommodate sea-going vessels such as touch at Nome with freight and passengers. The nearest harbor for such vessels is Port Clarence, about seventy miles northwest of Nome.



MESS TENT IN ONE OF CAPE NOME HYDRAULIC MINING COMPANY'S CAMPS.



## CHAPTER IX.

### RAILROAD BUILDING IN ALASKA.

IF anybody had seriously suggested the construction of a railroad in any part of Alaska five years ago, as a good investment for capital, his sanity would have been questioned. But the territory has undergone remarkable changes since then, and the subject of railroad construction through it may be discussed now as a sound business proposition. The success of the railroad constructed to tap the Klondike district, which was the direct outgrowth of the gold discoveries there, has been pronounced, and the original plans of its promoters have been broadened to meet the demands of increasing traffic and trade. The inhospitable wilderness of five years ago contains a large population now, whose necessities are great and the product of whose labors are worth more than \$20,000,000 annually.

In the light of the success of this enterprise, and the later discoveries of auriferous wealth north of the Yukon, the construction of a railroad to join the extremities of the Nome mining district has been broached.

The object of the proposed road is to connect Grantley Harbor, at the head of Port Clarence, the entrance to which is about seventy miles farther up the coast than Cape Nome, with the head of Golovin Bay, which is about forty miles this side of the Cape. As both of these elongated indentations in the northwestern Alaskan coast extend far inland, the termini of the projected railroad will be about eighty-five miles apart. The route will traverse a section of the country now being explored and surveyed, which there is every proof is as rich, if not richer, in mineral wealth as the territory nearer the coast. It will, also, provide a means of transporting supplies into the back region of the Nome mining district, for which adequate facilities are at present lacking, freight now being moved at a ruinous cost and at great risk to life and property. The prevalence of storms at Cape Nome this summer has demonstrated the insecurity of the open sea. Marine wrecks innumerable are strewn along the exposed coast, giving proof of the dangers besetting ocean commerce in that neighborhood. As everything indicates the settlement of a large permanent population

in the district, harbor facilities must be obtained. Both Port Clarence and Golovin Bay provide them, and rich, gold-bearing ground has been discovered in the vicinity of each.

The feasibility of extending this railroad ultimately to Nulato, one of the old Russian settlements on the lower reaches of the Yukon River, is most certain. The distance is only three hundred miles, as against six hundred and fifty miles from St. Michael. The object of this extension is to avoid the shallow and dangerous passages of the Yukon delta, which have been the terror of all who have taken the river route to the gold fields. The proposed railroad will, in time, form a section of the branch of the Canadian Pacific, which has been planned to extend from the main line, through the Klondike and down the Yukon valley, to Behring Sea, thence to the Behring Straits and across to Siberia, linking the Russian Empire with the United States by an all-rail route.

A charter was recently granted to the Yukon and Behring Straits Railway Company. This company proposes to have about one hundred miles of road in operation before the closing in of the winter of 1901 and 1902. This road will form the most important link in the New York to St. Petersburg chain of continuous railway, and will undoubtedly hasten the completion of the greatest of all railroad systems. Manifestly, the development of Alaska's mineral wealth is opening up an era of railroad building in the North.

## CHAPTER X.

### ORIGIN OF THE GOLD DEPOSITS IN NORTHWESTERN ALASKA.

THE Nome mining region is an ill-defined area in Northwestern Alaska. It lies near the entrance to Norton Sound, an arm of Behring Sea. It is named for an unimportant promontory on the southern margin of the Seward Peninsula, which forms the northwest extremity of our continent, lying between the Arctic Ocean and Behring Sea (Map I). Captain Cook discovered it over a hundred years ago, and, skirting its shores west and northward, charted mountains, headlands and rivers, naming a number of them. Since then many vessels, and in recent times particularly those of the United States Revenue Service, have visited the coast and extended the exploration and mapping. At present the United States Coast and Geodetic Survey is completing this work.

Nome City is situated directly on the sea coast, on the edge of the tundra, west of the cape which gives it its name, and east of another promontory called West Point. These two capes are about thirty miles apart. They are jutting extremities of a low mountain range, which curves around the tundra plain, defining a former shallow bay. Its outline is that of a low crescent, the inner curve being the even shore line (Map II).

The beach, which is everywhere low and smooth, consists of a fringe or narrow belt of sand and gravel, its submarine portion being a gently sloping coastal shelf, with occasional low bars. During much of the time it is swept by heavy surf.

The beach rises gradually to a sharply-cut bench, a hundred to two hundred yards from the surf. From the edge of this terrace, which is about twenty feet high, the moss-covered tundra extends inland, rising uniformly about two hundred feet in four or five miles, when it merges into the highland belt. In certain localities only do low terraces occur, apparently marking former stages in elevation above the sea level. The most pronounced of these terraces is about three miles northeast of Nome.

Locally the surface of the tundra is roughened or pitted by small, mossy hummocks a foot or two in height, and with corresponding de-



pressions. This condition of the surface, and the general flatness of the country, gives a stagnant drainage, which, together with the copious rainfall and thaw of the underground frost, renders the tundra wet and swampy throughout the summer season. Many ponds dot certain areas; and it is traversed by deep, sluggish rivers and small streams, taking tortuous courses from the mountains to the sea. The valleys of the larger streams are broad, with gentle slopes; those of the smaller narrow and trenchant, their edges being apparently protected from aerial erosion by the cover of moss. Along its northern edge the tundra merges into the alluvial flood plains of the larger valleys, thus extending into the mountains.



BEACH OFFICE, CAPE NOME HYDRAULIC MINING COMPANY.

The mountains have rounded slopes, broken here and there by steep escarpments, and rise to an elevation of one thousand to two thousand feet.

At the southern base of these mountains, along the edge of the tundra, the contours are low and rounded, and there are no well-defined foothills. The floors of the main valleys are rather flat and from one to three miles wide. Snake River Valley is a good type of these. Proceeding northward, the mountains become more rugged and increase in height toward the axis of the range. Near the head of Snake River there are some peaks which, apparently, reach the elevation of permanent snow.

About eight miles north of Nome, between the heads of Anvil and

Dexter Creeks, in the region on Mount King, some apparently marine benching and gravel terraces are found on the lower slopes of the mountains up to the height of about one thousand feet. They occur at irregular intervals, and mark successive stages in an elevation of the land which, probably, is still in progress.

The drainage of the Nome region is all southward to the coast. The principal streams are Snake, Nome, Penny, Solomon, Bonanza and Cripple Rivers. These are usually navigable for small boats for eight or ten miles from the mouth, as far up as the creek and gulch diggings. The current is generally rather swift, even through the tundra, while in the mountains many of the tributaries become torrents. All the gold of this region has, so far, been obtained from placer deposits; these can be conveniently grouped as gulch placers, bar placers, beach placers, tundra placers and bench placers. During last season those of the gulches and benches have been important gold producers.

The amount of gold produced during the last season cannot be definitely estimated. From the best information I could gather, I believe that the production of gold from the entire belt, during the season of 1900, will approach \$7,000,000.

The coarse gold, as far as present developments show, is largely confined to the creek and gulch diggings; it ranges from the size of a pin head to nuggets weighing several ounces. Much of this gulch gold is about the size of No. 3 shot.

The gold is usually rounded and often smoothly polished, *i. e.*, having a water-worn character. In color it is dull, somewhat resembling tarnished brass. The nuggets are round and subangular, but seldom flat. Small vitreous quartz masses are not infrequently found attached to the nuggets.

The creek gold usually occurs on or very near bed rock, under a thickness of five to eight feet of gravel. In the diggings the pay streak is of varying thickness, although the gravel usually carries some gold, or at least good colors, from the surface down. The flood plain—or gravel deposits of the stream—in or beneath which the gold occurs, when measured from rim rock to rim rock, varies in width on different creeks from twenty to several hundred feet.

A cross section of the gravels, at any given point, would show the gold to be not evenly distributed, but, more or less, gathered into zones. This pay streak usually trends parallel with the creek valley, and simply marks an earlier channel of the creek when the gold was laid

down in its bed. It is not necessarily continuous, but often occurs in detached pockets which are sometimes very rich.

The gravels occurring with these placers vary in size from medium to fine, and are usually poorly assorted with indistinct stratification. In the area examined by us on Anvil and Glacier Creeks, the pebbles were chiefly limestone and mica-schist, with much calcite and quartz of vein origin. All of these were frequently found to be highly mineralized.

In washing the gravels of the gulches and the creeks much "ruby sand" and "black sand" is obtained. The former is chiefly garnet and the latter magnite. These minerals, having a high specific gravity, are concentrated with the gold in the pay streaks.



WATCHING THE PANNING OUT OF A RICH POCKET.

In the lower reaches of Snake River, and of the other large streams, gold is reported to occur on the bars also, in apparently workable quantities. Here it is much finer than in the creeks and gulches, but not so reduced as that in the beach. It is variously mingled with the gravels and the sand constituting the bars; and, like them, was deposited by the rivers and streams which brought the material from the creeks and gulches. It was on the bars of Snake River that Nome gold was first discovered.

The statement, made by some of the miners, that the gold becomes finer toward the tundra, and coarser toward the ocean, was not borne out by observation.

It is well known that the various forms of gold placers are secondary deposits. The ultimate source of the gold is to be sought for in the bed rock, where it is usually found in veins. In a new region, like that of Nome, the prospector naturally turns first to the deposits which will yield immediate profits. Therefore vein or quartz mining, as it is often called, receives but little attention. In the Arctic region, moreover, prospecting for mineral veins is much impeded by the thick coating of moss which covers most of the surface of the country. We have, therefore, but little definite information in regard to mineral veins of the region.

As far as it goes, this evidence points to a derivation of the gold from the mineralized veins and country rock above described. I wish to emphasize this because of the prevalent idea that the placer gold has been brought from great distances by the action of ice, or through some convulsion of Nature. This is a complete misconception, for there is no evidence whatever of glacial action, and all the facts point to a local source of the gold. As placer gold can only move downhill from the parent rock, it is evident that the source of the gold in the creeks and gulches must be sought within their drainage basins. I do not wish to imply, however, that mineralized veins of commercial value must necessarily be found in the vicinity of the rich placers. Such has not been proved the case in many other placer regions. The gold of the parent rock may not be in a sufficiently concentrated form, or the cost of mining, because of local conditions, may be too great for profitable exploitation.

A very important consideration, moreover, in regard to the richness of placers, is that they have often derived their gold from immense masses of rock. The agents of erosion are constantly attacking the bed rock of any given area, reducing it to gravel, sand and mud, which streams carry seaward and re-deposit in various forms. A heavy substance like gold, which may have been disseminated through the rock, is concentrated during this process by the sorting action of water, and thus placers are formed. The richness of a placer, therefore, may quite as likely point to a previous erosion of great masses of bed rock as to rich and individual veins. I repeat, therefore, that rich placers cannot be considered conclusive evidence of the presence of rich gold veins in the region.

In the foregoing the gold has been traced back to its source in the bed rock. The placers of the gulches, which lie adjacent to this source, have been shown to contain the coarsest gold and to include the

richest deposits. The gold in the tundra, having been transported a greater distance than that of the gulches, it is of a finer grain; while that of the beach, where it has been subjected to the wearing action of waves, is still finer. The life history of a gold nugget in this region is somewhat as follows:

When the nugget is freed from the parent rock, by the disintegrating agencies, it has an angular form. It is washed down to the gulches and gradually becomes subrounded. By some accident of erosion the gulch placer may be disturbed; and the nugget, again moved and still further reduced in size, finds its way to the tundra deposits. By the shifting of the shore line it may subsequently be exposed to wave action, ground down still smaller, and eventually be borne as flake or flour gold.

I expand this elementary idea as to the origin of gold deposits, because of a misconception among some of the miners in the Nome region that the sea has washed up the gold and deposited it on the beach. It is even asserted, by some, that the waves are constantly adding gold to the beach placers by bringing it up from the depths of the ocean.

The practical criteria suggested for locating these old buried shore-line and old stream-channel pay streaks, without actual prospecting, are those of topography.

In the location of the old stream-channel pay streaks one should look for portions of old, dry or shallow valleys, or draws; the general alignment, or trend, of depressions or ponds in the surface of the tundra, represents the course of former waterways or stream channels.

On the creeks and in the gulches the process of mining consists of stripping, damming, ground sluicing and box sluicing. In some cases rockers are also used. The gold found here is, generally, coarse; so that its separation from the associated black and ruby sand, found with it in the sluice box, is not a difficult task. Further separation is accomplished by first panning, then blowing; and, finally, the employment of a hand magnet in the case of the magnetic black sand. On some of the gulches, where water is scarce for sluicing purposes, it is proposed to raise water from neighboring streams. The Charles D. Lane Company are preparing to work their rich prospects on Dexter and adjacent creeks in this way, by means of a pumping plant already installed on the bank of Snake River.

## CHAPTER XI.

### FLORA AND FAUNA.

THE striking feature of the Nome region, with respect to vegetation, is the absence of timber. The tundra has been referred to as a flat treeless, moss-covered waste. In this it differs little from the barren lands of the Arctic coast. Not a tree is to be seen, and in most places not a bush or shrub of any sort. The nearest approach to anything like timber in the region is a dwarfed or stunted growth of alder and willow. This shrubbery, or bushwood, rarely attains more than



DR. O. W. MCMICHAEL, SURGEON OF THE CAPE NOME HYDRAULIC MINING CO.,  
WITH PACK HORSE FOLLOWING.

three or four feet in height and seldom three inches in diameter. It appears principally along the edges of some of the valleys, and on the creeks and gulches in the lower reaches of the mountains; it is sometimes found crouched in fringes closely hugging the stream beds in the tundra. It is unsuitable for camping, and wholly inadequate for cabin-building and mining purposes. This absence of timber is assigned by Professor F. V. Colville, United States Botanist, who has visited the region, to the rigors of the Arctic climate.

From the reports of Dr. Sheldon Jackson and Captain Jarvis, the

Port Clarence region is similarly destitute, while the absence of timber in the St. Michael region is well known. Some timber, however, occurs in the Golovin Bay region, as may be seen from the following account of Captain Jarvis concerning his Overland Relief Expedition to Point Barrow in 1897 and 1898 :

“The timber here, which is presumably spruce, with some poplar, cottonwood, alder and willow, probably owes its existence and preservation to the more sheltered condition of the region. On the southern edge of Golovin Bay, is a good heavy growth of timber, but the west side is bare. In a few valleys of Golovin Sound was a sparse growth of trees, but, except for a few visible in the distance in the Kotzebue Sound region, we saw no more trees in all the country we travelled through from here to Point Barrow.”

Though the Nome region grows no timber, there is another source of fuel supply on this bleak coast. It consists of drift wood, or timber, cast ashore by the sea. Here it has been left in a great windrow, extending almost continuously along the beach near the base of the tundra, while in the estuaries, embayments and tidal lagoons the accumulation is often very great, covering many acres in area. This driftwood consists principally of trunks and stumps of trees, forming logs often from twenty to forty feet in length and two or more feet in diameter, many of which are still in a fair state of preservation. The timber is principally Alaska spruce, though other varieties are reported. It has come from the Yukon River and distant shores. Some logs bearing the brand of Puget Sound sawmills are reported to have been found. The value of this driftwood to Nome and the prospector during last season, both as fuel and in the construction of winter cabins, can hardly be over-estimated. At points away from Nome its use to the prospector will probably continue for sometime to come. For so great a population as that of Nome, however, the supply is necessarily limited, so that little or no reliance should be placed upon it for future use.

In the Nome region, both on the tundra and in the larger valleys, occurs a patchy but fair growth of grass, suitable for the support of horses, cattle and sheep during the summer months. In certain localities the reindeer, also, are reported to feed upon it in the green state. It does not, however, so far as observed, seem to be suitable for hay. Wild flowers, abound in great profusion, and some herbs, presumably of the Arctic flora type, are reported to occur.

The principal wild fruits occurring in the region are the blueberry

and the salmonberry. The latter is quite common. In some localities on the peninsula it is preserved by the missionaries and natives for winter use.

The principal, and most universal, vegetation in the Nome region is moss. It is of the true Siberian or Arctic tundra type of the Eastern continent. It covers with a dense growth the entire Nome tundra, and in many localities extends into the mountains. According to Dr. Sheldon Jackson, of the Bureau of Education, the moss covering the tundra flats about Nome, is of two kinds. The larger portion of it is the Sphagnum. Mixed with this is the "reindeer moss" proper, the



TRAVELING WITH REINDEER.

scientific name of which is *cladonia rangiferina*. On this latter moss the reindeer thrives at all seasons of the year.

Vegetation attains its maximum growth in late July and early August. Then verdure and wild flowers abound, giving a great variety of colors; but they do not flourish long. Scarcely has the season emerged from spring and the snow disappeared, when it passes into autumn, with its blighting frosts, indicative of the approaching winter. These summer days are long. From late May to early July it is daylight nearly all the time, with night scarcely perceptible at the time of summer solstice; in August the length of the day begins rapidly to decrease.



The winters will probably average ten or more degrees milder than at the Fortymile and Klondike region, in the same latitude in the interior. They are not much colder than in some parts of the United States. The minimum temperature, or greatest cold, seems to occur at about the middle of January, at which time the thermometer rarely descends to more than 30° below zero. From late October to early April, however, for a period of nearly six months, there are said to be but few days on which the thermometer rises above the freezing point. Snow begins to fall on the mountains about the middle of September. Blizzards are frequent. They begin in November and are usually of several days duration, although some have been known to last for weeks in the month of February. They usually come from the north or northeast. The snow-fall is not heavy, but the snow drifts greatly. It comes with the prevailing winter winds, which are usually from the north and northeast, especially the latter. A west wind denotes clear weather, during which the display of northern lights is said to be sublime. The fallen snow is peculiarly dry-frozen, so that pieces of it when struck together give a clinking, metallic sound. The ice attains a thickness of from four to five feet, but Behring Strait, the channel between Seward Peninsula and Siberia, is rarely, if ever, frozen over by a continuous sheet of ice. Only rarely can the Diomed Islands, in the middle of the channel, be reached on the ice. According to Captain Jarvis, solid ice usually extends beyond the shore from five to six miles; outside this is open water with fields of ice drifted about by the wind. Even in the coldest weather the natives go out to this open water to hunt seal. Nearly every year some of them are carried away, and almost perish from starvation before the ice field drifts near enough land, to enable them to leave it and reach the shore. In the spring water begins to flow in the creeks and rivers toward the latter part of May, about the same time the ice breaks up in the Yukon country. The Nome coast is free from ice earlier in the spring and later in the fall than the coast about St. Michael Harbor; but usually the fields of drift and shore ice do not sufficiently disappear to permit the approach of vessels before the 10th of June. As it begins to form again about five months later, vessels should not count on leaving the region later than early November. When played upon by the wind and tide, the drift ice is said to often pile up to a height of one hundred feet or more along the shore.

The climate, though for the most part moist and rainy, may be said to be generally healthful in summer. It is exceedingly rigorous

when cold weather sets in, making common severe colds and pulmonary troubles, especially pneumonia. Drainage and water supply last season were poor ; thus typhoid fever, often complicated by pneumonia, was frequent and not rarely fatal.

In the Nome region, and on the greater part of Seward Peninsula large game of almost every kind is rather scarce. The principal indigenous land quadruped is the Arctic hare. Some lynx are also said to occur. Only occasionally is a caribou or bear to be seen. Of the feathered tribe, the ptarmigan, grouse and Arctic fowl are all indigenous and common, while during the short summer season many species of temperate-climate birds visit the region.

Vast quantities of water fowl rise from the streams and lakes in some localities. A majority of the rivers are so filled with fish, that the means used for luring the finny denizens of the deep from their native element in almost all civilized countries are discarded, and a more simple, unsportsmanlike, but effective bucket, shovel and club supply the place of rod and line.

The salmon and trout are undoubtedly among the finest in the world. Some idea of the quantities of them running up the rivers may be gained from my experience in crossing the Solomon River on horseback, when the animal that I was riding became so frightened by the salmon darting around his legs as to be nearly unmanageable.

A never ending school of these magnificent fish seemed to be constantly going up or down this stream during the open season.

"Quail Creek" is said to be so named on account of the ptarmigan, or willow partridge, being so numerous as to be easily dispatched with a stick. The early discoverers, while "long" in mining experience, were so "short" on orthography as to be unable to spell ptarmigan, and said, "Oh, let's call it quail", and quail it is,—although it is absolutely certain that no quail has ever been seen in the vicinity of the stream. On account of these birds' exceeding stupidity the Eskimos in their language call them "fool-birds".

This ptarmigan is found in greater numbers than any other Arctic bird south of the Behring Straits. His coat of white in winter affords him protection by making him invisible at a short distance among the snow and ice.

The reindeer are not numerous, despite the well-directed and determined efforts of the Government to protect and propagate this valuable animal. It may be truly said that every part of the reindeer is put to some use. The flesh is darker and coarser than the ordinary

venison, but very sweet and wholesome. The tongue and marrow are great delicacies ; the blood, of which not a single drop is allowed to escape, is either drunk warm or made up in a kind of black pudding. The skin furnishes not only clothing impervious to the cold, but tents and bedding as well. Spoons, knife-handles and other household utensils are made out of the bones and horns. The latter, with the hoofs, serves for making an excellent glue. The native boots, or mukluks, are made like a moccasin shaped boot, tightly and carefully sewn, so as to be perfectly waterproof and the soles are made soft and pliable. The women chew the leather until it attains the desired condition.



HERD REINDEER, POINT BARROW, ALASKA.

The fur-bearing animals, such as the Arctic fox, polar bear, martin, sable and wolverine, are not numerous enough to make the fur trade—so important in the interior and on the northwestern side of Behring Straits—of any considerable consequence.

Fishing is carried on, in a small way, by natives along the greater part of the coast ; but more especially on the larger streams. The principal fish is the salmon. Here, as elsewhere in Alaska, this and the cod are the fish upon which the native largely relies for his supply of winter food. Salmon-trout are also common, and fine rock-cod occur as far north as Cape Prince of Wales. Along the Nome coast a species

of herring or smelt, very plentiful and of a fine flavor, is known to occur. A species of large crab, much like the Pacific coast crab, delicious and much used as food, is found at Golovin Bay and as far north as Cape Prince of Wales.

The hair-seal is common all along the coast, and becomes abundant towards Cape Prince of Wales. Economically it is an important animal to the native, on account of its store of meat and oil and, especially, the skin for clothing, foot wear and sundry uses. The seal are taken in both summer and winter. As I before stated the natives go out on the ice six or eight miles from shore where a few seal can be procured at the edge of the open sea. The natives are also reported to take a whale or two along the coast almost every year. They sell the bones, while the carcass is appropriated for food.

The dog is indeed the best friend of man in Alaska, as he furnishes by far the most reliable means of transportation. There are three varieties; the huskys, that come from the neighborhood of the McKenzie River; the siwash and the mahlemut, the latter two varieties being found over almost all that section. They are strong, hardy animals, descendants of the Siberian wolf, which is still numerous enough in the interior to make them a source of great anxiety to the reindeer herders.

When the Alaskan dog breeder discovers that his stock is deteriorating by inbreeding, he visits some wolf infested section with his stud bitches, and leaves them free, for a term, to mingle with the various packs. In such case he relies on the instinct which usually brings the wandering dogs home to their master, or he tethers them in the runways frequented by the packs, until the desired result is attained. The hardy animal bred as above described retains many of the characteristics of the pure wolf. He never barks, but howls and whines. He remains very tractable, and is nearly always a faithful and willing servant, guard and companion.

## CHAPTER XII.

### IN CONCLUSION.

**T**O those who contemplate going to Alaska, to battle with the climate, to cross almost impassable country, to ford streams nearly as cold in the summer as they are during the long Arctic winters, I would say, "don't".

I say this with full knowledgde that many men succeed in making fortunes in that country, but it requires some capital and unlimited nerve and determination. Gold is there in untold quantities, though it is not for the average man ; and when such an one stumbles upon it, as such sometimes do, it is by the merest chance.

The gold seeker in Alaska should be a man of iron nerve and constitution.

He should, by all means, possess some practical knowledge of gold-mining.

He should have an objective point, about which he must obtain all the accurate information possible before starting.

He should be supplied with a perfect outfit, or equipment, for the season in the far north.

He should have money to carry out his cherished plans. He shall not be able, in the vicinity of any of the great mining camps of Alaska, to locate an inch of ground.

He must either purchase claims, or interests in claims, or wander far from the present mining districts, on long and costly prospecting tours to obtain anything of value.

The thousands who return from the Nome regions, condemning the country, are like the hundreds and thousands who have returned from every gold rush known.

Many of the disappointed arrived on the gold fields without a dollar in their pockets or a penny's worth of supplies, with the mad idea that they would be able to wash out gold enough, during their first day on shore, to purchase the much needed dinner.

They returned from California in the early fifties, denouncing the country and all who remained in it. They did the same from the Comstock and Bodv regions later ; and, still later, from Leadville and Crip-

ple Creek. Yet all these regions have yielded millions, and extensive mining operations are still being carried on successfully. In Australia, and South Africa the story has been the same.

The human failure is loud in his denunciation of everything and everybody.

He failed at mining, as he had failed in everything he had engaged in previously, and will fail in everything else he does on his own account.

The riches of Alaska have been proved too conclusively to require defence at my hands here.

The Government records show that more gold has been taken out of the Seward purchase than from any one section on the face of the globe in the same time; and it is universally conceded that the authorities have no record of fully one-half of the output of that territory.

The individual miner observes, in many cases, the most profound secrecy concerning his "find".

The successful Alaskan miners have disposed of their gold in Nome, Seattle, Portland, San Francisco, Chicago and other cities scattered throughout the far and middle west, not a few of them bringing gold to the New York market.

The establishment of a government assay office at Nome City would have greatly increased the record of gold in the peninsula. In Alaska, as in fact everywhere else, everything depends upon the people in charge of operations.

Judgment and skill, untiring energy and experience nowhere count for so much as on a gold field.

Some of the very best mines in Alaska have been, in the hands of incompetent men, total failures for a long time, and, later, under proper conditions, sources of enormous revenue.

Purchase no claims without being positive that the title is perfect. In dealing with Alaskan matters, as well as in nearly all others, patronize, as far as possible, old and well-known concerns.

Do not make the mistake of thinking that a few seasons will see the end of successful mining operations in Northwestern Alaska.

It is the opinion of the best informed experts that the mining industry will still be in its infancy in this region in twenty years from now.

In the mean time well equipped individuals and well organized companies will amass colossal fortunes, the right kind of Alaskan securities will pay enormous dividends; while thousands will fail, and

hundreds will lose their lives and be buried in the eternal ice of the Polar region.

That the country has a wonderful future, no one, who has studied the conditions which make it what it is, doubts. Some of the economic features of this section, as against other rich placer camps in the Northwest are, first, the ease with which it is possible to arrive there. In landing from the steamer, the moment your foot presses terra firma, you may consider yourself in touch with valuable mining ground. There are no mountains to cross, no long rivers with their ever present dangers to travel.

As everything can be bought on the ground, of men who know your needs, no six months' "mushing" in supplies over wintry trails is necessary. No tolls, duties, royalties, will be incurred, because the country belongs to Uncle Sam, and you are allowed to suppose (until you get there) that the people have some voice in making the laws which govern them.

About the first of October, those of our party who did not remain at Nome for the winter, embarked on the S. S. ———, bound for Seattle. After being a few days at sea, the boilers gave out—tubes leaking so as to put fires out—and we spent a day or more rolling in the trough of the sea, while they were repaired. After we had resumed our journey for another twenty-four hours, they again broke down, and this time forty-eight hours were consumed in their repair. I was requested to approach the captain of the vessel, and ask that we put into Dutch Harbor, then not far away, for repairs. The captain very frankly told me that if we should there meet a revenue cutter, and the condition of the boilers should become known to them, we would not be allowed to proceed to Seattle, and might be compelled to remain in Dutch Harbor indefinitely. I really wanted to see Dutch Harbor, as we had not stopped there on our voyage north, but I had no desire to remain there indefinitely, so I agreed with him that the best thing we could do would be to "take chances" and continue our voyage as best we could.

It became necessary, during the three weeks we consumed in reaching Seattle, to stop several times more to repair the boilers. Had a storm overtaken us, we should have been entirely at its mercy.

When the voyage was about half over, provisions ran short, and we were compelled to dispense with one of our daily meals. The S. S. "City of Nome" was encountered at sea, and we secured some provisions from her. Altogether it was a most uncomfortable voyage.

On the majority of vessels going to and coming from Nome, the stewards were men who were working their passage and who received no wages. It will readily be seen that the service they performed was anything but satisfactory.

All vessels carried many stowaways. In one instance, so many were discovered on board, that the captain put back, had every passenger go ashore, made a thorough search for stowaways, and finally checked everybody off as they came on board.

Nome is not an agreeable place in which to live, as, outside of gold, the country has very few inducements to offer. There are many natural disadvantages to contend with, chief among which is the entire absence of wood, saving a limited amount of driftwood on the beach. Consequently all lumber for building and mining purposes has to be transported from long distances, mostly from Puget Sound ports; coal and oil for fuel have to be supplied from outside sources. This season, as coal has been discovered in the neighborhood, the fuel question may now be solved.

Very few enterprises can be brought to a successful issue, in any walk of life, until the price for their production has been paid in full, whether in work, hardship, or other peace offering equally valuable.

Those who go to these northern placers will find it no exception to the general rule. However much fortune may bestow on them, they will come away with the impression that they have earned every cent of it.

With the difficulties of transportation, the enormous first cost of manufactures, and the hard task of organization overcome, we look forward to the time when the breaking up of the ice in Behring Sea will enable us to return to our task and begin work immediately. We will no longer be obliged to put in the long and tedious work of experiment that retarded our efforts and exhausted our strength and capital the first season.



## APPENDIX.

### AMERICAN MINING LAWS.

The general mining laws of the United States, moulded after those of the State of Oregon, are applicable to Alaska. A brief outline of the placer laws are as follows :

No single individual can locate more than one claim, consisting of twenty acres, and no association of persons can locate more than one hundred and sixty acres in the same locality, which association, to obtain the maximum quantity, must be composed of no less than eight bona fide locators.

All mining ground outside the limits of an organized district can be organized into a separate district, by the joint presence of six men who have located claims in this new part of the country. They are allowed to elect a recorder, with whom records of claims are filed, to define the limits of the district, manner of making locations, and to fix limits of time for all claims to be recorded ; amount of assessment work to be done, also to limit and define all local arrangements, consisting of handling debris, rights of way, and use of water from creeks and ditches, etc.

No local laws or regulations can restrict one from locating twenty acres, if he so desires, but he is not compelled to take that amount.

No local mining association can pass laws in conflict with any United States mining laws.

If ground has been previously surveyed, placer claims must conform to legal subdivisions, not to exceed twenty acres for each claim.

A patent for land claimed or located under the United States mining laws, applicable to Alaska, may be obtained after \$500 worth of work has been done for each individual claim, or fraction thereof, by application to proper authorities. The price per acre for placer ground is \$2.50.

If a placer claim contains a vein or lode of quartz running through the same, the locator of the placer claim has no claim whatever to the vein or lode, unless special reference is made in the notice, giving the exact locality and general direction of vein, or lode, within the limits of the claim.

In applying for a patent a survey must be made of the lode, and twenty-five feet on either side of the same, and paid for at the rate of \$5.00 per acre.

Failure to comply with any of these requirements, forfeits all rights to quartz veins within the limits of the placer claim.

The mining laws of the United States apply only to the citizens thereof, or those who have declared their intention to become such.

No lode claim can contain more ground than a parallelogram one thousand five hundred by six hundred feet.

No more than one location can be made for each locator on the same vein, except of original discoverer, who is allowed two.

All lode locations, to be legal, must be known to contain some recognized

mineral, either in vein, ledge, lode, chute or chimney, with at least one well-defined wall, where a discovery notice must be posted, containing the name of locator, description of the claim, its limits and general direction. The location must be properly bounded by posts, or monuments (with proper inscriptions), at each angle and one at each centre end.

The location of a quartz claim must be filed for record in a similar way to that of a placer claim, with someone to act in that capacity. It is also customary to send a certificate of record to the general land commissioner of that district.

The sum of one hundred dollars must be expended yearly in assessment work. All locations date from the first day of January next following the date of location.

It is provided by the Act of Reciprocity by the United States as to mining claims in Alaska : That native born citizens of the Dominion of Canada shall be accorded, in said district of Alaska, the same mining rights and privileges accorded to citizens of the United States in British Columbia and the Northwestern Territory, by the laws of the Dominion of Canada or the local laws, rules and regulations, but no greater rights shall be thus accorded that citizens of the United States, or persons who have declared their intention to become such, may enjoy in said district of Alaska, and the Secretary of the Interior shall from time to time promulgate, and enforce rules and regulations to carry this into effect. (Approved May 14th, 1898).

(It is rather doubtful how far this act is in force at present, considering the fact that there is an alien exclusion act in force in British Columbia at present.)

After gold is found in paying quantities, stake the ground and put up your location notice, which should read as follows :

NOTICE IS HEREBY GIVEN that the undersigned, in compliance with the requirements of the Revised Statutes of the United States, ha... this day located the following described Placer Mining Ground, viz :

COMMENCING AT.....  
.....  
.....  
situate in the.....Mining District.....  
.....of .....

This claim shall be known as the.....  
Placer Mining Claim.

Located.....day of.....I.....  
.....

POWER OF ATTORNEY.

The United States Mining Laws permit the staking of claims, for non-residents, through a Power of Attorney. This law was taken advantage of by the miners in the Nome district, and serious trouble is likely to result. This law should be done away with as soon as possible. Miners who arrive on the ground a little late find that everything is staked for people who never expect to work the ground.

AMERICAN MINING LAWS.

For the benefit of the reader a copy of the Power of Attorney is attached :

KNOW ALL MEN BY THESE PRESENTS, That.....the undersigned
.....citizen.....of the
United States.....made, constituted and appointed .....
.....true and lawful attorney, for.....and in.....name....., to locate,
stake and record for.....lode claim.....and placer mining ground in the.....

Also, having located the same, to bargain, sell, grant, release and convey the
same, entire or in separate parcels, to make proper deeds, and acknowledge and
deliver the same to such person.....as .....
attorney may desire, hereby ratifying and confirming all lawful acts done by.....
said attorney by virtue thereof.

.....(SEAL)
.....(SEAL)
.....(SEAL)

On this.....day of.....I....., before me, a.....
..... appeared
personally known to me as the person.....whose name..... subscribed to
the foregoing Power of Attorney, and acknowledged the execution thereof as.....
free act and deed, for the purpose therein mentioned.

Given under my hand and.....seal the day and year first above written.
Dated.....I.....,

.....
.....
.....

.....



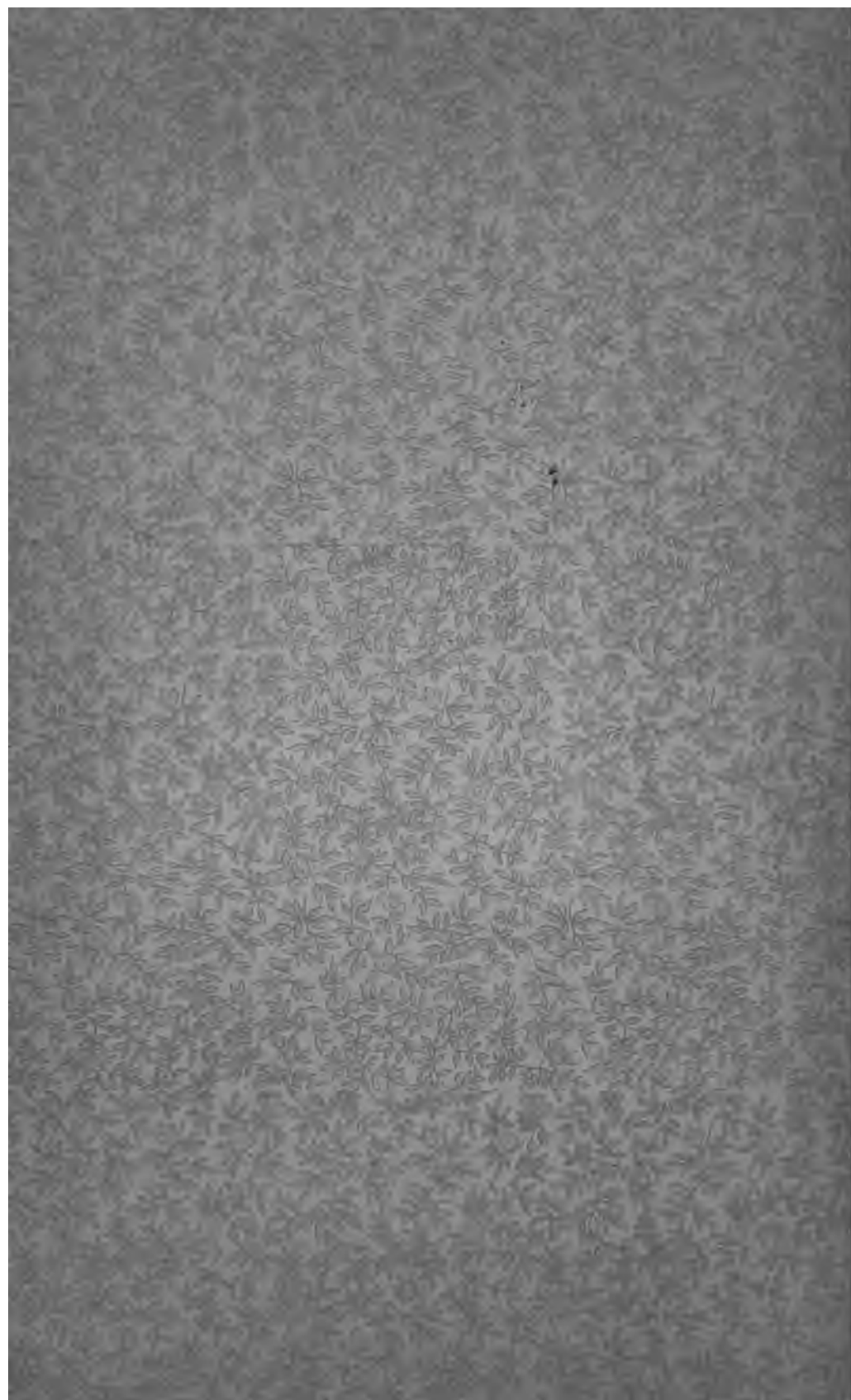














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